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No. 525

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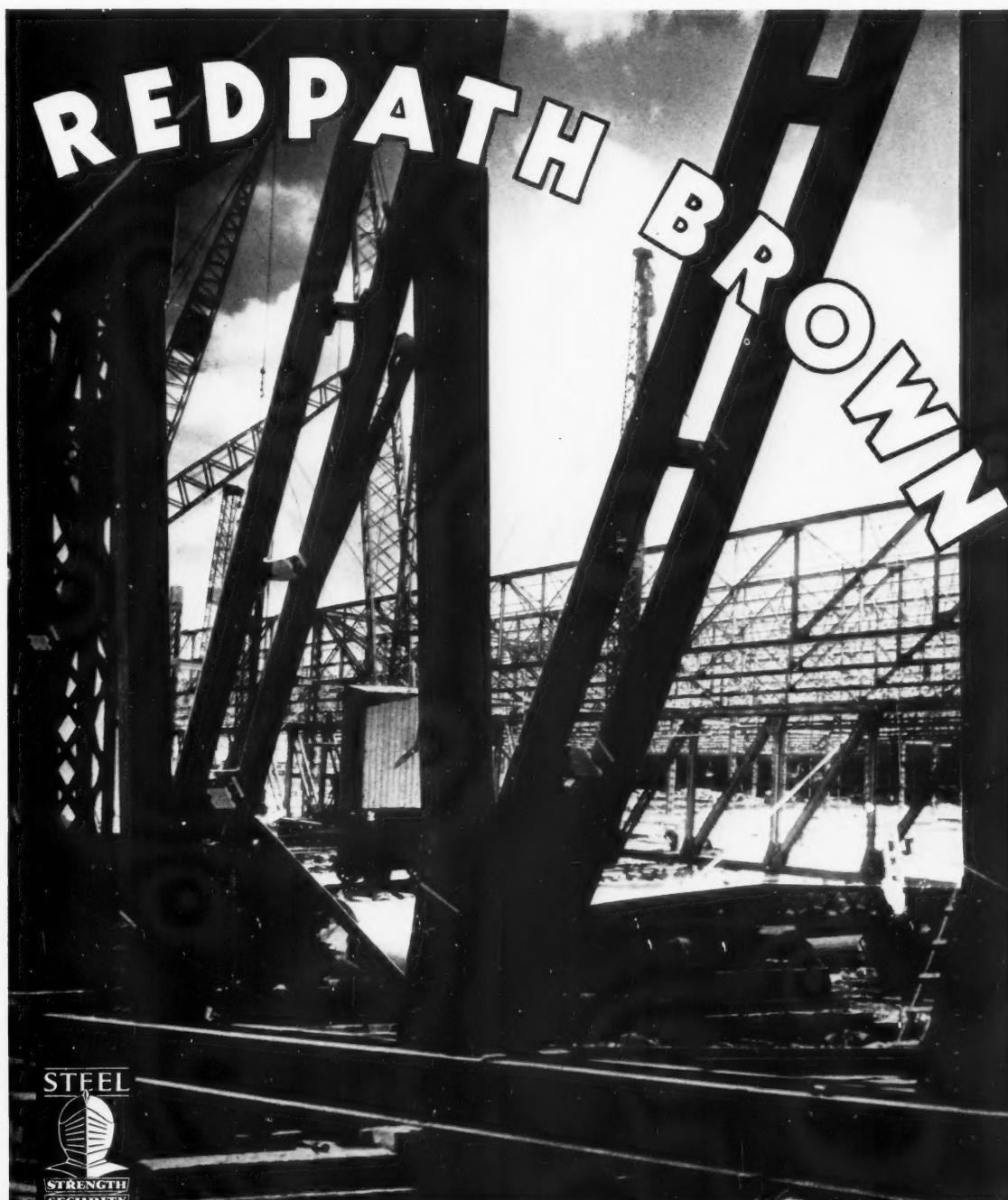
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# THE ARCHITECTURAL REVIEW

*A Magazine of Architecture & Decoration*

VOL. LXXXVIII No. 525

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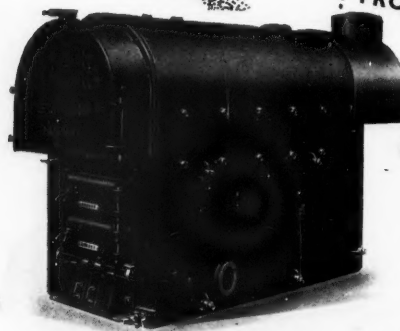
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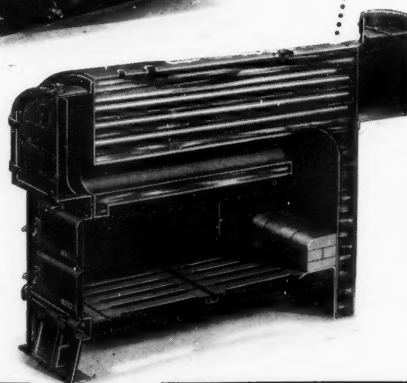
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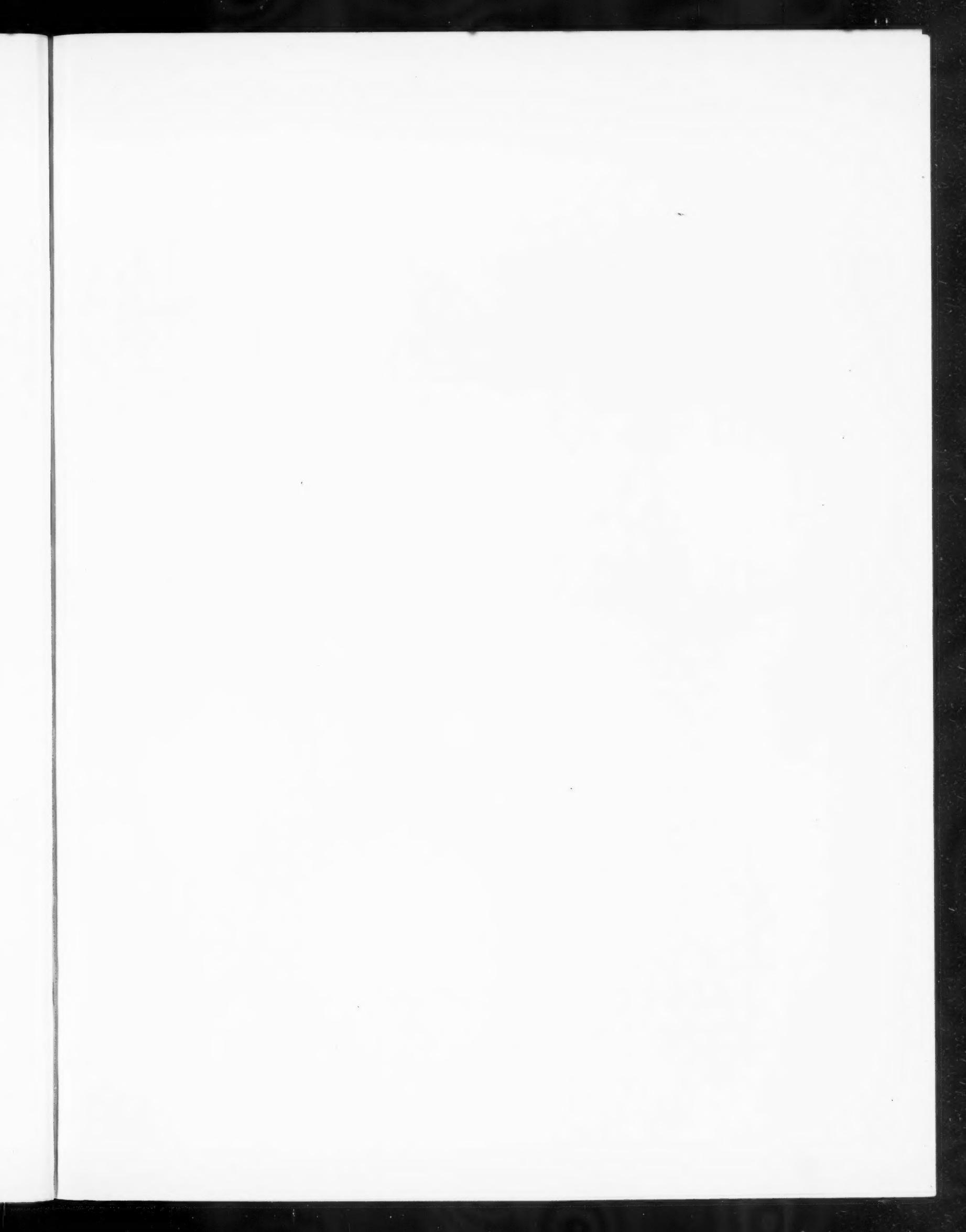
Above—The "OILEX" Boiler for Central warming by Hot Water.

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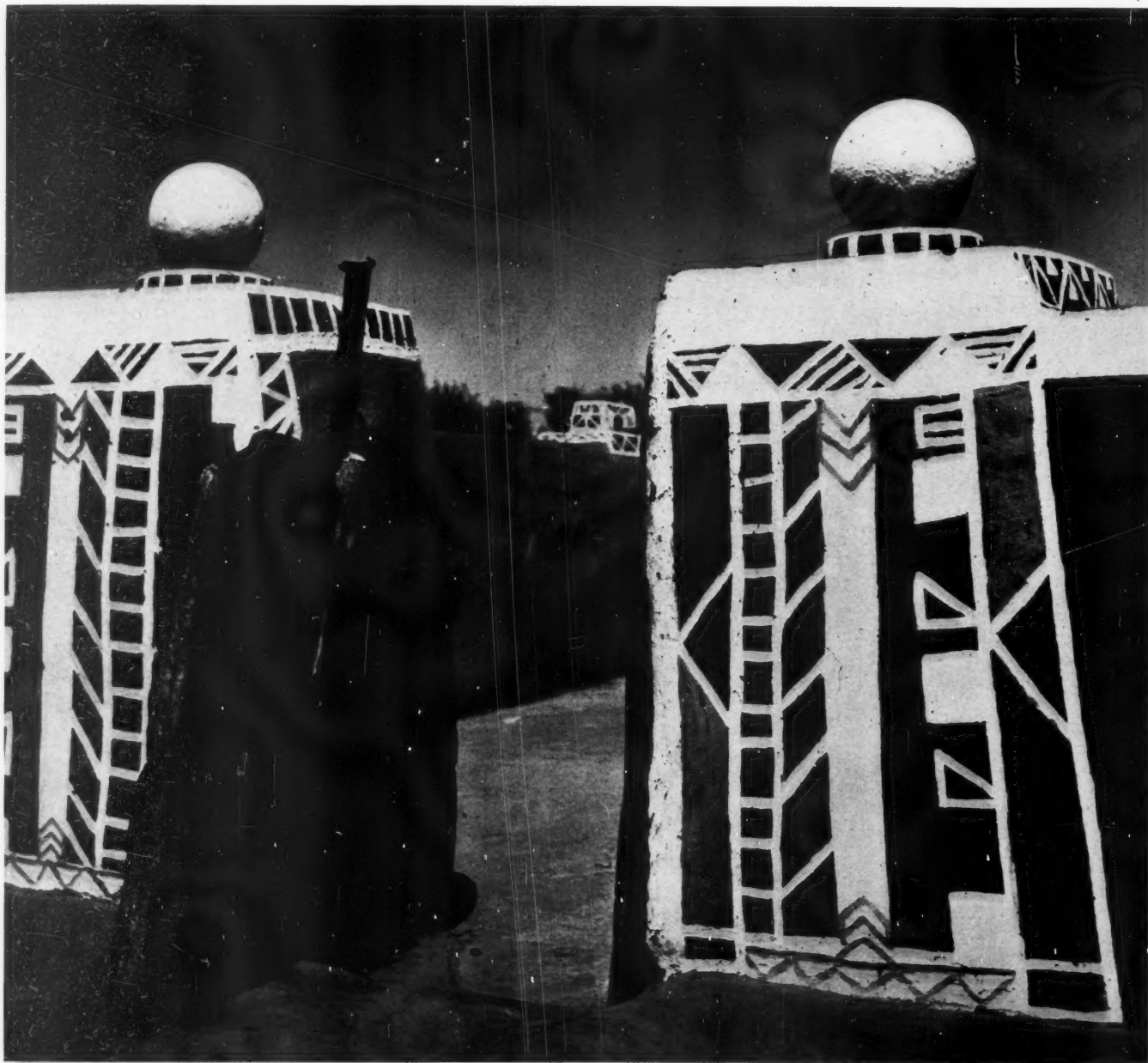


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# NATIVE WALL DECORATION IN SOUTH AFRICA

Sundried mud and reed thatching are still the universal building materials of the rural South African native, though his urban cousins have readily adopted the brick and corrugated iron of the white man's importation. The circular dwellings are usually grouped in a kraal with an enclosing wall; the photograph shows an example near Pretoria in which the entrance gates, and the parapet seen in the background, bear vigorous witness to the persistence of a local tradition of decora-

tion. The pattern, which is often handed down through tribes and families, consists of limewash and coloured earths, and is also used to emphasize door and window openings in the native huts. The time is bound to come when the vigorous but rather internationally flavoured modern architecture of South Africa, as described in the article on the facing page, seeks a more regional mode of expression, and it is in such a tradition as this that it may find inspiration.

PLATE I

August 1940



## Modern Architecture in South Africa

*A Survey of Recent Developments by Hugh Casson with photographs by Margaret Casson of new buildings in Durban, Pretoria and Johannesburg.*

IT is a popular misconception, both here and abroad, that Britain owns the Empire. This is unfortunate for two reasons. First, it gives an impression that Britain owns more than a fair share of the world's surface. Secondly, and perhaps more important, it twists the relationship between Britain and the Empire into that of master and servant, resulting in the arrogance of one and the inferiority complex of the other.

If it was remembered that nine-tenths of the Empire are self-owning and self-governing, there would be more chance perhaps for a reasoned mutual understanding to develop among all the countries concerned. The absence of such an understanding is also due to ignorance on both sides of each other's problems and mode of life. Both direct and indirect contacts are imperfectly maintained. The tourist trade—the direct contact—is meagre and half-hearted. Among the wealthy it has never been considered “the thing” to visit the Empire—to announce in sophisticated circles one's intention of holidaying in, say, Australia would be to invite the shrillest cries of protest and disbelief). The less snobbish classes are naturally deterred by questions of expense. Depressed apparently in advance by this fact, the self-advertising propaganda dispersed by the dominions and colonies in this country has always been so lamentably handled as actively to discourage visitors of any kind, rarely progressing beyond the exhibition in shop windows of piles of fruit in tarnished gilt baskets and lifeless photographs of scenery reproduced in sepia tones. At international exhibitions too, the Empire pavilions are nearly always distinguished by their poverty of imagination in design and display technique. This is unfortunate, but less serious than the fact that in Fleet Street the Empire is frankly not regarded as “news” and its doings are not recorded at any length.

Architectural papers are equally neglectful. Most of them illustrate frequently and regularly

the new buildings of Europe and America, but hardly ever those of the Empire, a state of affairs not always excused by the superiority in design of the former over the latter. The result is that any architectural student can reel off the names of twenty foreign architects and their best-known works, while it would be remarkable if he knew the name of one from South Africa, Australia or Canada.

It would be wrong of course to assume that these countries had produced as yet such individual designers as Frank Lloyd Wright, Aalto, Le Corbusier or Makielius, but it would be equally wrong to assume that they are hopelessly out of touch with contemporary thought and design. They have, it is true, short histories and limited cultural traditions, but their remoteness encourages a vital, almost desperate, enthusiasm for keeping up to date, and at the same time protects them from the trivial passing fashions of the more urbane countries. Whether, generally speaking, they take full advantage of these conditions to foster the growth of their own vernacular architecture it is difficult to say, but in one country at least architecture is not standing still.

South Africa is often described as a young country. It is a sentimental phrase, popular with South Africans because it can be used with equal success as a boast or an excuse. It would perhaps be more accurate to describe her as under-developed for her age. Her sparse and primitive road system barely scratches the surface, her country towns are makeshift, loose and scattered, her social services and industries still in their infancy. Even her cities have not yet lost the awkward arrogance and raw bouncy charm of adolescence. Her architecture however has reached an important and interesting stage in its development. In order to appreciate the significance of this stage it is necessary to be aware of what has preceded it and in what circumstances it was reached.

It is nearly three hundred years since Van

Riebeck founded a small settlement at Capetown to be used as a revictualling port on the long trade routes to the East. For a century and a half the town and its hinterland grew and prospered under its various owners, and gradually a style of architecture, known today as Cape Dutch, was evolved. This was based of course on Dutch domestic work of the 17th century but was adapted and simplified to meet new conditions of life and climate. It passed through periods of French and oriental influence, and with the coming of the English in the early 19th century it developed into a rather amateur version of Regency. The Baroque swags and florid gables gave way to smooth smug façades and stuccoed pediments, and never, except in modern reproduction, reappeared; for the Dutch settlers, moving North to avoid the English, did not take their architecture with them. They were pioneers, and “all the energy of pioneers goes out in sweat.” Art, thought and invention are only born in those conditions of serenity and ease which these early trekkers were never fortunate enough to possess. They were poor, overworked farmers, harried by native wars and with no leisure or ability to build like their forefathers at the Cape. Their houses and towns were but slightly elaborated versions of native huts, with mud floors and reed thatch roofs.

Later the discovery of gold on the Rand brought hordes of prospectors to the Transvaal. They too had no time for architecture. Corrugated and cast iron were too easy to get and quick to erect, and for fifty years these were the two principal building materials used in South Africa. Towns sprang up as quickly as film sets and as quickly as film sets they peeled, rusted, and decayed. By 1850 South African architecture, despite its promising start had disappeared and, except for a few notable buildings, was not to be reborn until the years of reconstruction after the Great War. Even then, as was to be expected, it was at first a dull and unimaginative child. Architects,





mostly trained overseas, were cautious, their work frankly derivative. A street in Johannesburg might have been a street in Denver or Calgary; the select suburbs of Capetown, except for certain differences in material, were no different from those of Woking or St. Albans.

About ten years ago however there were signs of a gradual awakening. South Africa became aware that it was being left behind. Young architects who had travelled and studied in Europe returned full of enthusiasm for the ideas which were sweeping the Continent. The cosmopolitan city of Johannesburg attracted designers of every nationality, and soon the so-called international style was established on new and receptive ground. Three factors encouraged its development, one the natural virtues of the South African climate and scene, two the increasingly high standard of architectural education provided at the two principal schools, and three the wide patronage it received from the public.

South Africa is a country of strong colours, of brilliant light and sharp-edged, velvety shadows. It is a vast spacious country, without the intimacy and small-scale cosiness of the West European scene. Under these conditions the simple shapes and planes, the clear colours and the contrasting surface textures upon which modern architecture depends for its effect, have a crisp confident air which they seem to lack under Northern skies. The open-air life too, which is demanded by the magnificent climate, is logically interpreted in the modern plan, with its relaxed and open arrangement of rooms, and the close harmony of interior with surrounding garden.

The second factor, architectural education, is perhaps more important. For this the schools attached to Capetown and Johannesburg Universities are largely responsible. Capetown, until recently no more than a half-hearted branch of the local Art school, has now been reorganized into a flourishing and independent school under the able and enterprising Professor Thornton White.\* At Johannesburg Professor Pearce, assisted by Mr. Martienssen (who is a personal friend of M. le Corbusier) is at the head of a young and enthusiastic staff whose energy and influence are evident throughout the school. Both these schools work on similar lines and combine occasionally on the same programmes. The attitude of both is frankly

\* Professor Thornton White held an important post at the A.A. school in London before going to Capetown in 1938.

Recent buildings in Durban and Johannesburg. These two cities have been quick to assimilate Western examples, and their architecture is more sophisticated and, perhaps, less representative of local characteristics than that of country districts, but the comparatively advanced stage which has been reached in South African urban design is evident. The buildings reading from top to bottom are: a house and flats in Johannesburg, a students' hostel in Durban, a factory in Durban, flats and offices in Johannesburg and a bus station in Durban. The headpiece to this article shows a typical South African scene and one from which the country draws much of its wealth: mine dumps on the outskirts of Pretoria.

and courageously modern. This has of course resulted in some criticism on the grounds that the work done is too impractical, on too large a scale, or that it is just wilfully queer. These are objections familiar to all progressive schools, and they are unimportant. The work done by designers who studied at these schools is already an impressive tribute to the stimulating atmosphere and sound training which they have evidently found there—and their influence on contemporary design throughout the country is considerable.

But no architecture, however progressive in spirit, can flourish without patronage, and fortunately in South Africa, particularly in the domestic field, this is generous.

In England modern architecture has largely been supported by the intelligentsia and a few enlightened public bodies such as the Zoo and the London Passenger Transport Board. In South Africa it is supported by the middle classes who form the bulk of the population. It is not perhaps a highly intelligent patronage—modern architecture is accepted as the latest fashion rather than as a new approach to living—but this lack of understanding is less important than the fact that the public is not frightened by modern design. This is a promising sign, for once familiarity has been established, discrimination and taste will follow.

As yet official patronage of modern design has only been indirect. The Public Works Department, who correspond to the Office of Works here, usually design their buildings with all the familiar and unimaginative caution of civil servants. Its influence is negative, its greatest virtue inoffensiveness. The Provincial Administration for the Transvaal however, which was recently formed to handle a large section of the P.W.D. work, is more enterprising and can fairly be compared with the Miners' Welfare Department in England. Young assistants are given opportunities to design and carry out the smaller buildings, and when work is handed out to architects in private practice it is done with few restrictions in regard to style. This has resulted in a fair number of buildings, particularly schools, which are designed ably and frankly in the modern manner.

The influence of competitions has not been very happy on the whole. They are not held as frequently as in England, possibly through a lack of experienced assessors. The very smartest and largest buildings are often given to architects overseas, and when an important competition is held it is usually assessed by an overseas architect, chosen for academic distinction rather than for an up-to-date attitude to design. The results therefore have not been very successful—even in the two notorious cases where the assessors finished up by doing the jobs themselves.

Inevitably the first efforts at modern architecture in South Africa were handled in a rather brutal and doctrinaire way. More attention was paid to the arbitrary grouping of modern idioms than to the requirements of climate and client. Inevitably too there was a good deal of "pastiche," though this was carried out with disarming gusto and enthusiasm. These however were the faults of an experimental period and were to be expected so long as architects were learning a new and exciting language. Today there are signs that architecture in South Africa is growing more sensitive, more human and more in harmony with the spirit of the country. Unhampered by tradition and disciplined by the natural limitations of materials and climate it has already developed a vitality and character of its own.



On the following pages are illustrated a number of buildings erected during the last few years in and around a typical South African city. Pretoria, whose history and growth were discussed in a previous article\*, has been selected as this typical city because its buildings are perhaps more representative of the general standard of contemporary design in South Africa than those of larger and more sophisticated places. It is a brisk comfortable city, less inhibited than Capetown, less cosmopolitan than Durban, and less feverishly smart-Alec than Johannesburg. Its architecture is simple, undramatic and sincere. It should be noted

that none of the houses illustrated are in any way luxury buildings, as are the majority of modern houses in England. They have all been built cheaply for middle-class incomes. Some of them are immature. Nearly all of them show signs of bad workmanship. Together, however, they set a standard of design of which an English city of comparable size and type might well feel proud, and which holds high promise for the future. In reading the plans it should be remembered that South Africa is in the Southern Hemisphere. North and South aspects therefore are reversed from what we are accustomed to.

\* "Pretoria the Mushroom Capital," published in February, 1940.

## 1 House by Gordon Macintosh



This house, situated on the outskirts of Pretoria, was designed by the architect for his own use. In style it is by no means typical of South African contemporary domestic architecture. It has, for example, a flat roof which is unusual, and the whole conception is more sophisticated and "European" than most of the following examples.

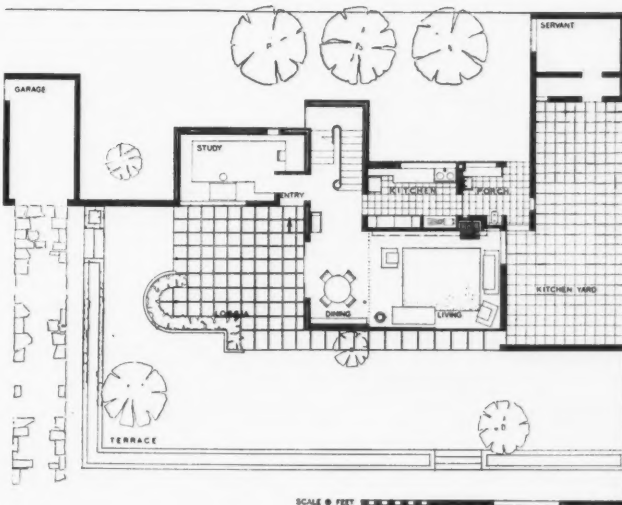
The problem, a small middle-class house for two permanent residents, was a conventional one, but it has been handled with energy and imagination. It is built of brick with horizontal joints struck, and the floors and roof are of reinforced concrete. The windows are steel, purpose-made. The floors are wood block, and the internal walls are plastered except for the study, which is fair faced brickwork distempered. The first floor is close-carpeted with an Australian wool felt.

Particular attention has been paid to the use of colour. The walls of the loggia are colour-washed a cool green in contrast to the off-white brick surfaces of the rest of the house. The walls of the living-room are treated in alternating tints of cream and lime green forming a background to the carmine curtains and carpet. The staircase, finished a glossy black with a white handrail, has terracotta walls and a pale blue ceiling.

1, north elevation. 2, detail of purpose-made sliding glass doors to living-room. The canopy is designed to give protection from the strong summer sun. 3, living-room, looking towards dining space. The column is finished in stainless steel.



FIRST FLOOR PLAN



GROUND FLOOR PLAN



2



3

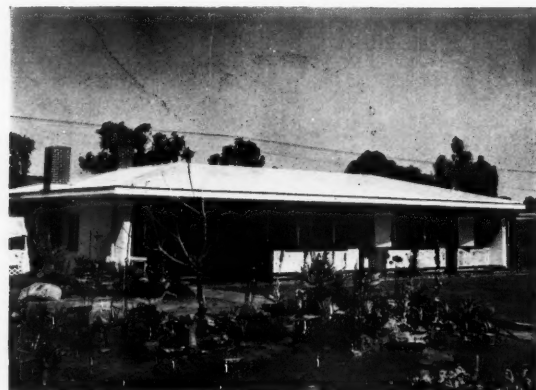
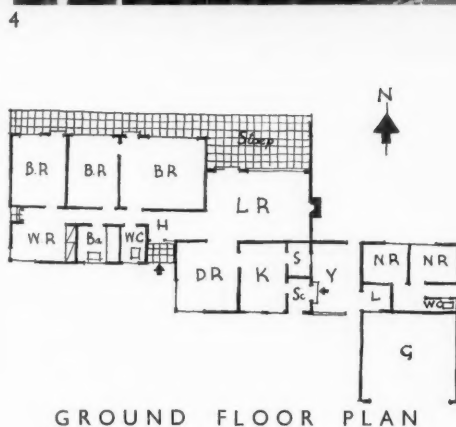
## 2 House by A. V. Nunn with Hellmut Stauch

This house, also built by the architect (A. V. Nunn) for his own occupation, has the same direct approach to the problem as that illustrated overleaf, but with one important difference. It has not broken away from the thin tradition of domestic design in South Africa. It is single-storied, shallow-roofed, and wide-eaved, and even in such features as the stable type doors leading on to the stoep it recalls the details of Cape Dutch craftsmen.

The house is situated on a flat site in a suburb of Pretoria, and is approached from the South. It is built of brick rendered white, the roof is of grey corrugated asbestos, the windows are standard steel, the floors of wood. The exceptionally large eaves permit the low winter sun to penetrate the north-facing rooms, but give ample protection from the summer heat. The ceilings throughout are lined with insulating board, carried through at eaves level. The floor of the stoep is finished in shiny black grano, the walls are dove grey and the doors inky-blue and white.

From the plan it will be seen that the native quarters, an integral part of any house in South Africa, have the advantage of the north aspect, but are sufficiently set back not to intrude upon the garden. A small laundry is also provided.

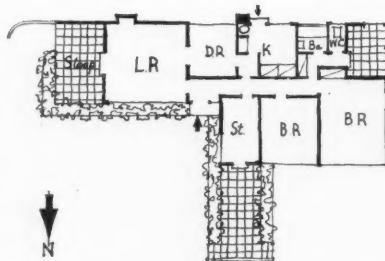
4, a close up of the north front, showing protection given by eaves at midday. 5, the north elevation.



## 3 House by A. V. Nunn with Hellmut Stauch

The problem in the design of this house was the narrow site in a very crowded building area. In order to get the maximum advantage of the north aspect the house has been placed along the southern site boundary, and screen walls have been erected to obtain as much privacy as possible. The house is built of stock bricks rendered, and the eill panels are of red facings. The windows are standard steel and the roof is covered with corrugated iron. The window lintols are concealed above eaves level which gives a feeling of lightness to the design.

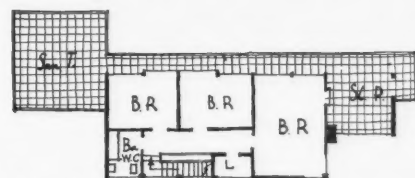
6, the east elevation, facing the road.



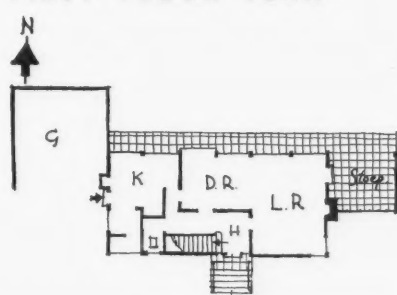
#### 4 House by A. V. Nunn with Hellmut Stauch

All the main rooms of this house face north, and receive protection against the sun from generous eaves and the cantilevered balcony, which serves the bedrooms. The sleeping-porch and stoep under are open to the north and east, and their open-air character is further emphasized by the glass screens which protect them from the cold southern winds. The native quarters in this instance are not connected to the house. The house is built of stock bricks, rendered off-white, and roofed with corrugated iron, laid at the minimum pitch.

7, the south (and entrance) front. 8, the garden (north) front.



FIRST FLOOR PLAN



GROUND FLOOR PLAN



7

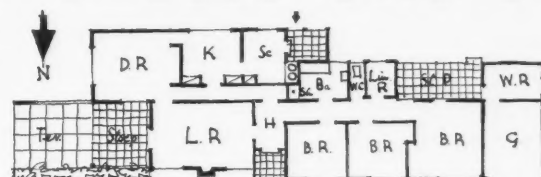


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#### 5 House by A. V. Nunn with Hellmut Stauch

This long, narrow house divides itself satisfactorily into separate living and sleeping zones, a division neatly suggested by the drop in the roof line. Sliding shutters and blinds here take the place of wide eaves.

9, view from the north.



GROUND FLOOR PLAN

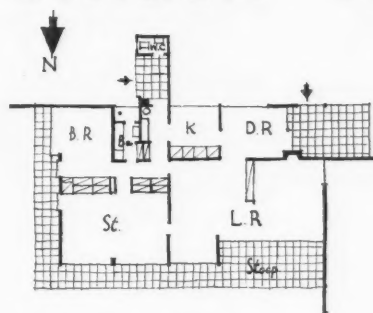


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#### 6 House by Hellmutt Stauch

This house, built by the architect for himself, a few miles outside Pretoria, occupies an isolated site on the top of a small hill commanding magnificent views in every direction. In order to avoid disturbing the skyline the house has been kept low, and is built of the usual materials, rendered brick, steel windows, and corrugated iron roof. Stable paving bricks are used to fill the cill panels. The interior is openly planned, being divided by sliding screens or breast-high cupboards.

10, view approaching from the north. 11, close up of living-room windows.



GROUND FLOOR PLAN



10

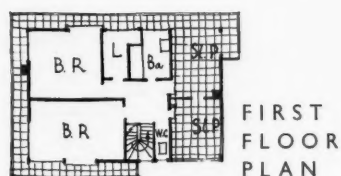


11

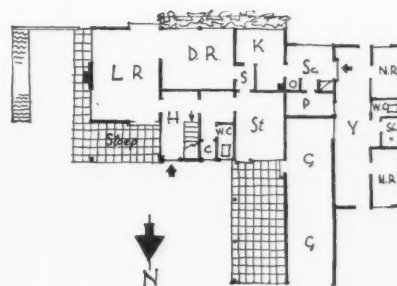
#### 7 House by Gordon Macintosh and Hellmutt Stauch

The approach to this house is from the north, and the site slopes steeply away, giving wide views to the south over Pretoria. The difficult site, together with certain restrictions laid down by the clients, made this an awkward problem which has been solved by making imaginative use of levels. It is built of rendered brick, with steel windows and corrugated iron roof.

12, the north and entrance front.



FIRST FLOOR PLAN



GROUND FLOOR PLAN



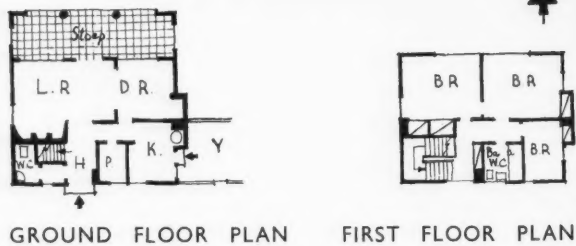
12



## 8 House by Norman Eaton

This compact little house, built of rough stocks thickly whitewashed, is roofed with corrugated iron. The projection of eaves only where the windows occur is an interesting feature, and the repetition of the shallow curve of the roof on the projecting chimney stack gives a pleasant rhythm to the design.

13, the garden (north) front.

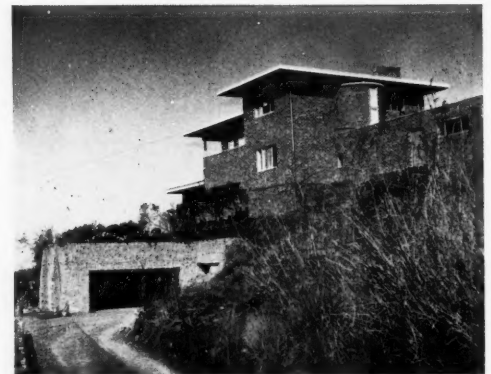
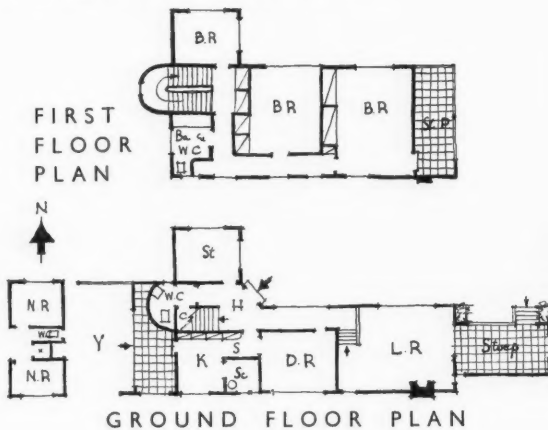


13

## 9 House by Norman Eaton

As can be seen from the photograph this house is situated almost on the crown of the hill looking over the city. The main rooms command magnificent views to the north and east. The house is neatly planned to take full advantage of the varying levels, and care has been taken, with the help of the garden layout, to avoid a perched effect. The facing bricks are burnt biscuit in colour, the steel windows are painted cream and the roof is of corrugated iron.

14, the north front from the main approach.

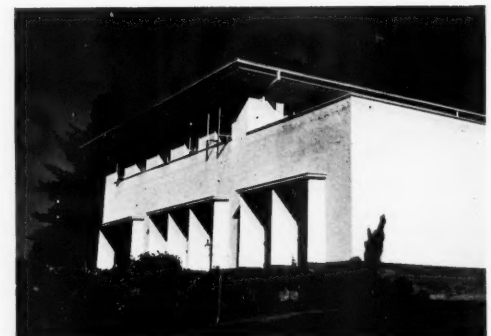
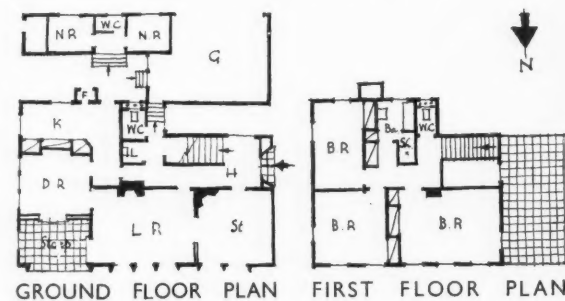


14

## 10 House by Ernst Schwarz

The white rough-plastered house stands on a sloping site with a north aspect. It has been carefully placed so that the wide views are framed by the existing trees. The V-shaped concrete fins supporting canopies over the ground floor windows provide shelter from the midday heat and make a pleasant decorative pattern over the rather formal elevation.

15, the north front.

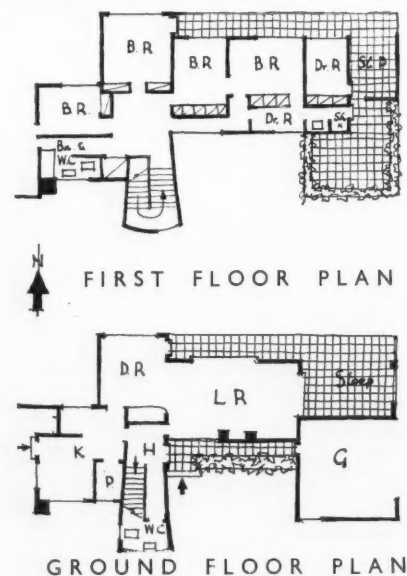


15

## 11 House by Gordon Macintosh

This house stands on a wooded site almost next door to the one above. It is planned so that all the main rooms face the view to the north, while the hill behind affords good protection from the south, the side from which the house is approached. It was designed originally to have a flat roof, but it has suffered little from the client's late decision to have a flat-pitched corrugated iron roof. The rough stone of the terrace walls makes a pleasant contrast to the smooth finish of the rendered brick surfaces. The staircase is lighted by a panel of glass bricks running its full width, and the windows are standard metal.

16, the north and garden front.

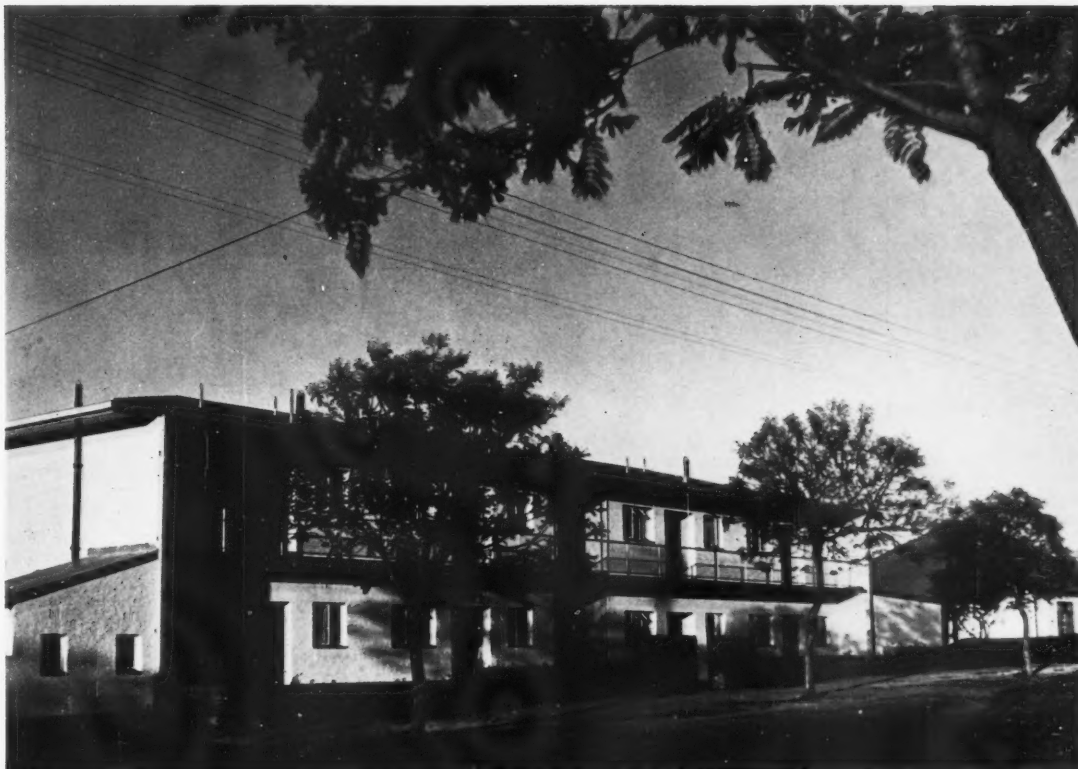


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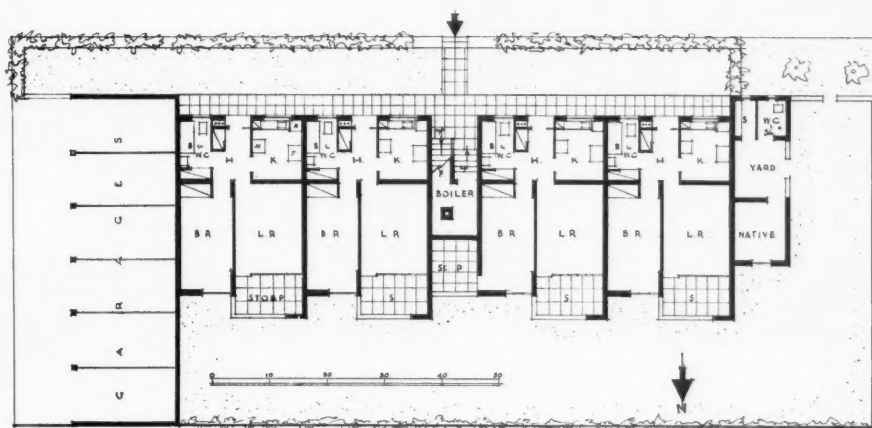
## 12 Flats by Margaret Casson

The problem here was to provide eight flats, on not more than two levels, with a minimum of six garages, on a narrow site, only 60 per cent. of which could legally be used. The site is a corner one, overlooking on the north side a private garden. The flats have been planned to take advantage of this, and the screen walls of the stoeps have been arranged to prevent the overlooking of one flat by another. Despite the low cost of the building (the contract price was £5,500) the flats are well finished and fully equipped. The walls are of local rough facing bricks colour-washed a pinkish white, the floors are of concrete finished with Teak parquet, the windows are steel, and the roof is of corrugated iron. The soffit of the eaves is painted pale blue, the windows white, the doors grey, the railings lemon yellow. The sunblinds are striped red, blue and white, and the floors of the galleries are shiny black grano. All service pipes are carried down in ducts.

17, the south (and entrance) front.  
18, the north front overlooking the garden.



17



GROUND FLOOR PLAN



18

## 13 Flats by A. V. Nunn with Hellmuth Stauch

The site of these flats is approached on its shorter side from a street in the centre of Pretoria. Owing to the extreme depth and narrowness of the ground available, the scheme has been planned in two separate blocks of four flats each, a solution which gives to the main rooms

19, detail showing design of eaves soffit.  
20, north elevation of rear block.



19



20

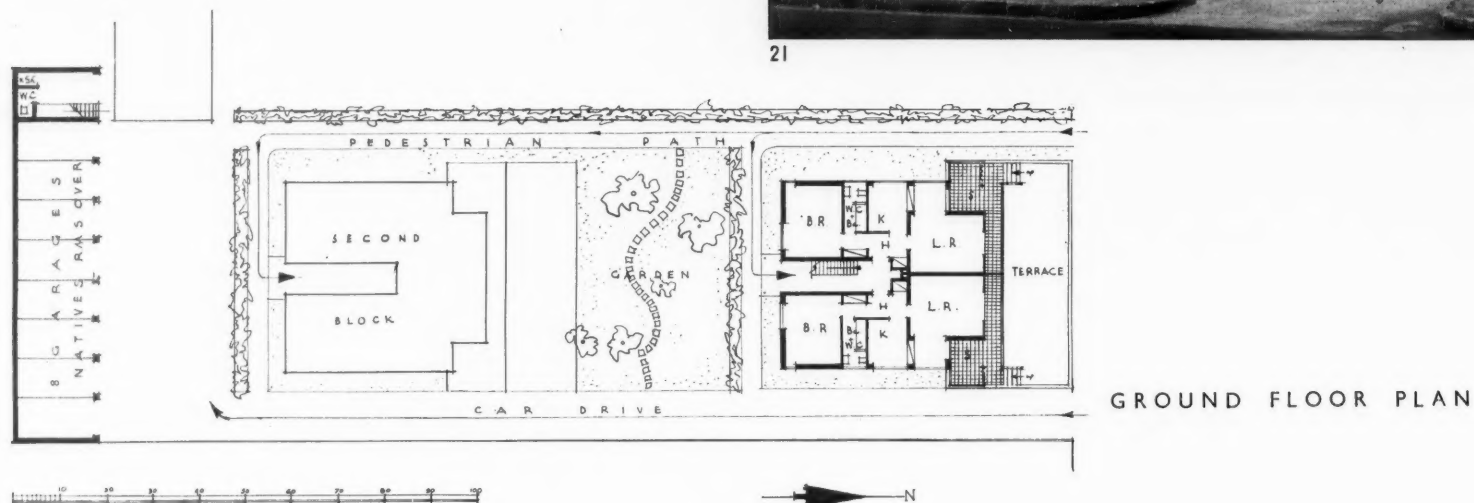
of each flat the maximum of light and privacy, as well as the advantage of the north aspect. The garages have been set right at the rear of the site, which has been planted with trees and shrubs.

Both blocks are built of brick with concrete floors and balconies, and corrugated iron roofs at a low pitch. The facing bricks are red, and the recessed surfaces on the north façades are painted pale grey to form a pleasant background to the white of the steel windows and the red and blue of the railings and sunblinds. The projecting eaves, which are slotted to improve the ventilation of the roof space, are painted white. The garden layout, railings and gates were designed by the architects.

21, north elevation of front block.



21



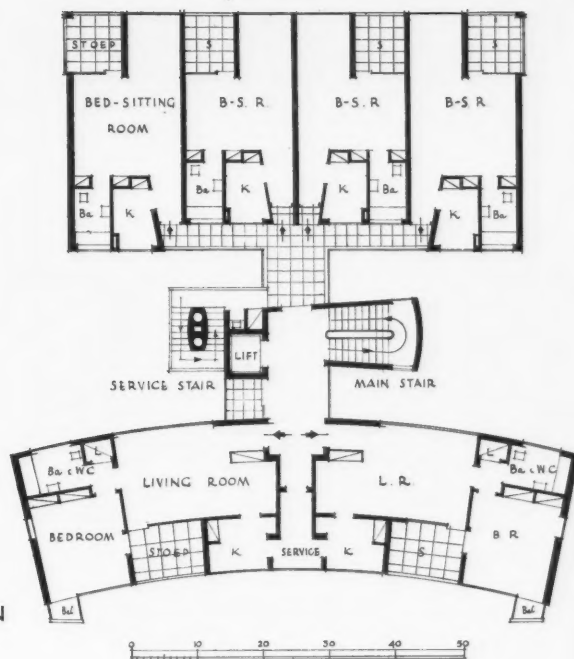
## 14 Flats by Gordon Macintosh

This block occupies the site of an old suburban house, which was demolished. The mature garden, however, has been left as far as possible undisturbed. The plan takes the form of two separate blocks, which are linked by the circulation unit of stairs, lift and rubbish chute. The front portion faces south, but is compensated by magnificent views over to the hills surrounding the city. This

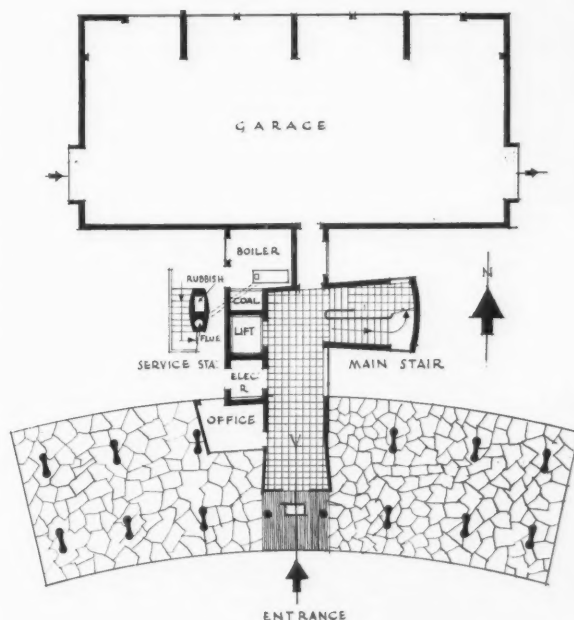


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FIRST FLOOR PLAN



GROUND FLOOR PLAN

portion has been elevated on stanchions to take full advantage of the view, and its gentle curve adds grace and interest to an otherwise rather formal façade. Pipes from the flats above are concealed in the centres of the supporting piers. The building is constructed with a reinforced concrete frame and brick infilling, and all external wall surfaces are rendered off-white. The floors are of wood blocks, and the windows are standard steel. Each flat is well equipped with cupboards, and the kitchens, though small, are well fitted up.

22, south façade from the street. 23, looking towards the street from the rear block. The door on the right serves the garage. 24, the north elevation of the rear block.



23



24

## 15 School by A. V. Nunn and Hellmut Stauch

This is one of the schools, referred to in the preceding article, which was allotted by the Provincial Administration of the Transvaal to architects in private practice. It is an Afrikaans-medium school for children of both sexes, was built about five years ago, and is situated on an open site near the centre of the town.

The classrooms are planned symmetrically about the entrance, and face north.

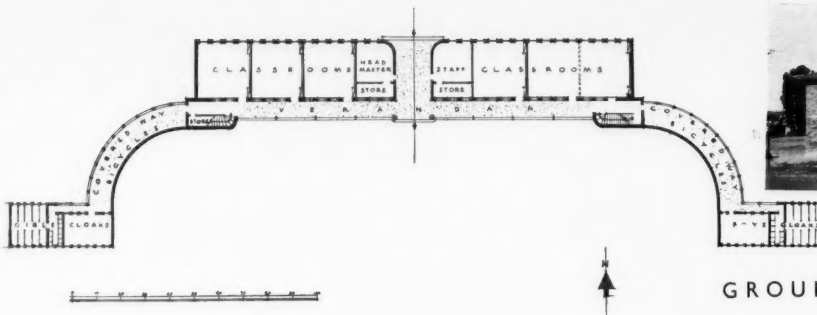
25, north façade from the playground.



25

Cross ventilation is secured by high level windows on the south side. The approach galleries are served by stair towers at each end, and low covered ways, fitted to take bicycles, link the lavatory blocks to the main building. The school is built of local red bricks, and is roofed with corrugated iron.

26, west end, showing staircase tower and bicycle store.



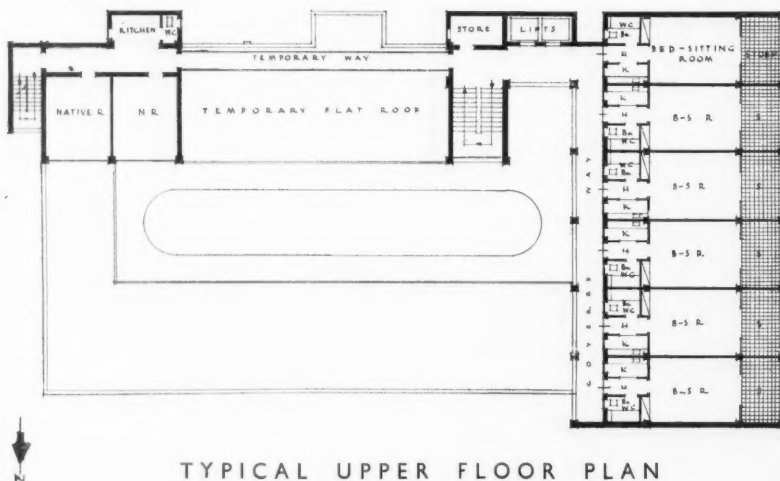
GROUND FLOOR PLAN

## 16 Shops, Offices and Flats, by A. V. Nunn and Hellmut Stauch

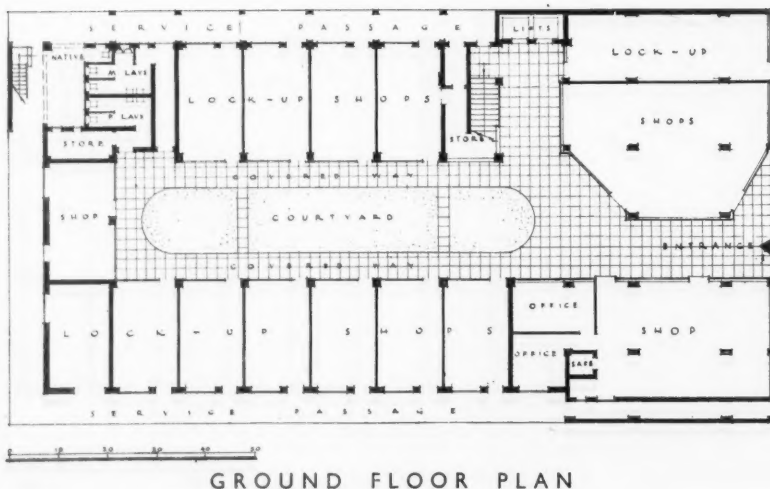
This block occupies an important frontage in one of the main streets of Pretoria. On the ground floor the whole site is occupied by shops which are planned round an open court. The first floor contains offices, and the remaining floors are planned as one room flats.

The construction consists of a R.C. frame, which is exposed on the main façade, and brick infilling. The floors are of concrete and the cill panels to the front balconies are faced with black terrazzo tiles. The steel windows are painted white and the sunblinds, essential for protection against the afternoon sun, are striped red and white.

27, main elevation to street. 28, looking from courtyard towards street.



TYPICAL UPPER FLOOR PLAN



GROUND FLOOR PLAN



27



28



Today there is some irony in the fact that a little nation whose very existence is a political freak should continue to survive when boundaries that we had looked on as permanent disappear overnight. And the idea of a state like Andorra, described in this article, acquires even more appeal than usually attaches to a hidden valley simply by virtue of being still not in the news. More exactly, it has dimly reached the news; for a Reuter message via Madrid appears in the newspapers as we go to press to the effect that, because of the recent events in France, the Andorran police force of six policemen is to be increased to twelve.



## OVER THE PASS

By Basil Collier

### A Visit to the Co-principality of the Valleys of Andorra

THE high-road between the Catalan province of the Roussillon and the county of Foix traverses one of the most desolate and sparsely inhabited regions in the whole of France. It leaves the high but fertile plain of the Cerdagne and, passing close to the Spanish frontier, ascends the rocky, stony valley of the Carol. At the village of Porté it reaches a height of 5,300 feet above the sea. Thence it climbs another thousand feet to the lonely pass of Puymorens, where it crosses the Pyrenean watershed. The traveller who is coming from the Roussillon\* has travelled for the last thirty miles on the Spanish side of the mountains, without ever leaving France.

On the far side of the pass the road winds steeply down to the village of L'Hospitalet. A mile or two along it a road diverges to the left. Its course, which scars the southern face of the valley of the Ariège, here close to its source, can be followed for some distance by the eye, as it tacks towards the heights which lie in that direction. A premonitory roadsign on the hither side of the junction resolutely beckons the forward-facing traveller on to Toulouse, and attaches to a leftward arrow letters of equal size which spell the word ANDORRE. This roadsign provides the traveller with the most tangible evidence he has so far encountered of the concrete existence of the "hidden republic" of Andorra.

Before the coming of the rotary snow-plough the highway across the pass of Puymorens was snowbound for five or six months of the year. The by-road to Andorra, which did not then exist, still is. It is easy to imagine the disapproving horror with which the eighteenth-

century traveller regarded this rugged and unregulated neighbourhood, before the Romantic movement had made mountains fashionable. Behind and amidst their natural barriers of rock, the independent valleys of Andorra lay hidden through the ages, virtually unregarded by the outside world. The nineteenth century and the Edwardian heyday which followed it added to the stock of legends about Andorra, but did little to increase its accessibility. Occasionally a wandering Englishman penetrated to the valleys and brought back traveller's tales of their queer remoteness. There was always local contact with Andorra, but communication was on foot or muleback. There was no road across the mountains. Thirty years ago it was boasted that no wheeled vehicle had ever entered the valleys of Andorra from outside.

The notion of a hidden valley, sheltered from the storm and stress of ordinary existence, is one of those exteriorizations by means of which the human soul persistently objectifies its aspirations and despairs. Undoubtedly much of the romantic appeal of Andorra is due to the ease with which it can be represented as a real counterpart to this fantasy. But, however coolly regarded, the reality which lies behind the legend of Andorra is odd and anomalous enough to make its own appeal. For Andorra, one third larger than the Isle of Wight, with a population equal to that of a small English market town, is an independent country, living under its own laws and issuing its own passports to its subjects. Its constitution is a unique survival from the feudal ages.

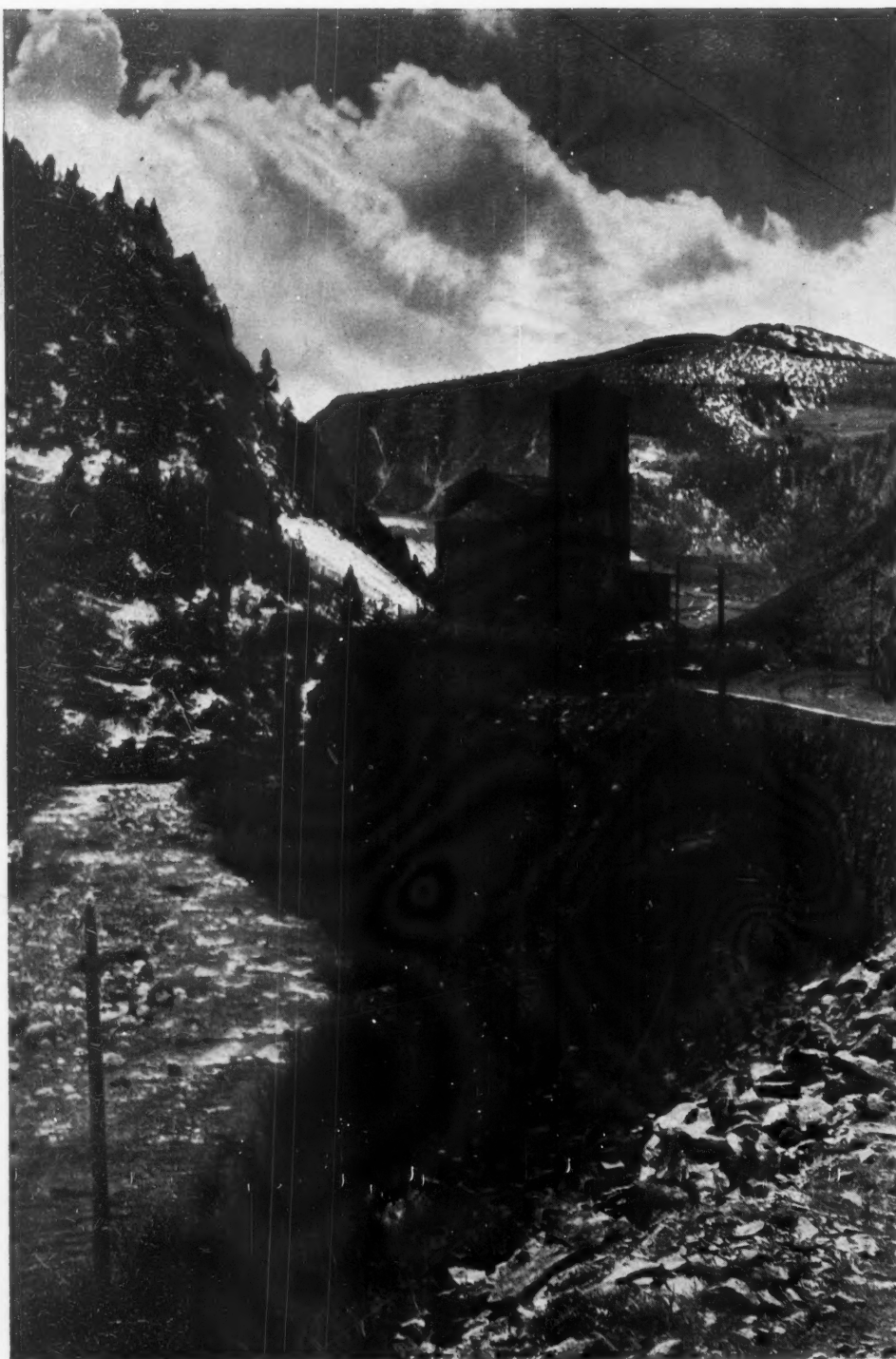
Except on ski, Andorra is inaccessible in winter. In summer it can be reached with ease from either France or Spain. But to visit the valleys in spring can still be reckoned

almost an adventure. The road constructed by the French goes over the pass of Envalira, just inside the frontiers of Andorra, at an altitude of eight thousand feet. The road has just been opened to traffic, and its surface, after five months under snow, is uncertain. Falls of snow are probable. A fresh fall melts in the hot spring sunshine: next night's frost coats the roadway with a treacherous film of ice. There is no knowing whether one will get across the top, or once across, whether one will get back.

A solidly built stone house shelters the French custom's officers. The Andorran official sits in a wooden shanty, surrounded by picture postcards and unsmokable cigars which tourists buy as souvenirs. Two other wooden buildings provide accommodation for skiers venturing as far as the French side of the range. On the far side of the pass, the road winds down to the eastern valley of Andorra. For the habitable parts of Andorra—a country whose mean elevation is nearly half as much again as the height of the highest mountain in the British Isles—are concentrated in three quite narrow valleys and the lower slopes of the hills enclosing them. Two of these valleys form a virtually continuous trough which winds from east to west of the country. The third, of smaller importance, debouches at right angles to the north.

As the road descends, the temperature grows noticeably higher, and patches of new grass appear amidst the snow. The amorphous streets of Soldeu, the first Andorran village, are clear except for a few hard, impacted mounds which have the air of being destined to a dingy immortality. Snow lies in drifts and pockets along the road, which winds on past the lonely church of Sant Joan de Casellas,

\* On which an article appeared in the April, 1940, number of THE ARCHITECTURAL REVIEW.



Lodged in the Pyrenees between France and Spain the five thousand inhabitants of Andorra have subsisted for more than seven hundred years on a rugged, mountainous countryside and an anomalous constitution. Politically, France has been in the ascendant, though culturally Spanish influence is still predominant. The churches, mostly dating from the twelfth century, are in the typical Romanesque of the region though distinguished by tall square towers with steeply sloping pyramidal roofs. That at Canillo, above, in the Valira del Orien, stands out gauntly, against a background of sparse vegetation. Below, a twelfth-century carving of the Virgin and Child from a hermitage near the church of Sant Joan de Casellas.



the hermitage of Meritxell, and the village of Canillo. Near Encamp one crosses the little saddle which separates the eastern from the principal valley, or Gran Valira. At this point the snow is left behind: henceforth one sees it only on the heights, towards the tops of the rocky walls which dwarf the valley. Daffodils and jonquils blossom in the meadows which go down to the stream. But it is early May; and tomorrow the country may be white again.

The Andorrans claim that their independence dates from an edict of Charlemagne or Louis

the Debonair. It is quite likely that the valleys were first colonized by disbanded soldiers who had fought under a Frankish sovereign against the Moors. But their known history dates from 1278, when an act of mediation was drawn up to settle a dispute between the count of Foix and the bishop of Urgel respecting the lordship of the district. The Andorrans have continued to live by charter of this document. The rights of the bishop are still exercised by his successor; those of the count have passed through the ruling houses of Navarre and France to the head of the French government. The Andorrans pay an annual tribute of 450 pesetas to the bishop, and of 960 francs to the French authorities who, however, usually waive this contribution. On the outbreak of the French revolution the new government of France, acting on high-minded democratic principles, refused to recognize this feudal situation, with the result that Andorra barely escaped annexation by reactionary Spain. The Andorrans begged Napoleon to secure their liberties by enslaving them once more, and the old arrangement was resumed.

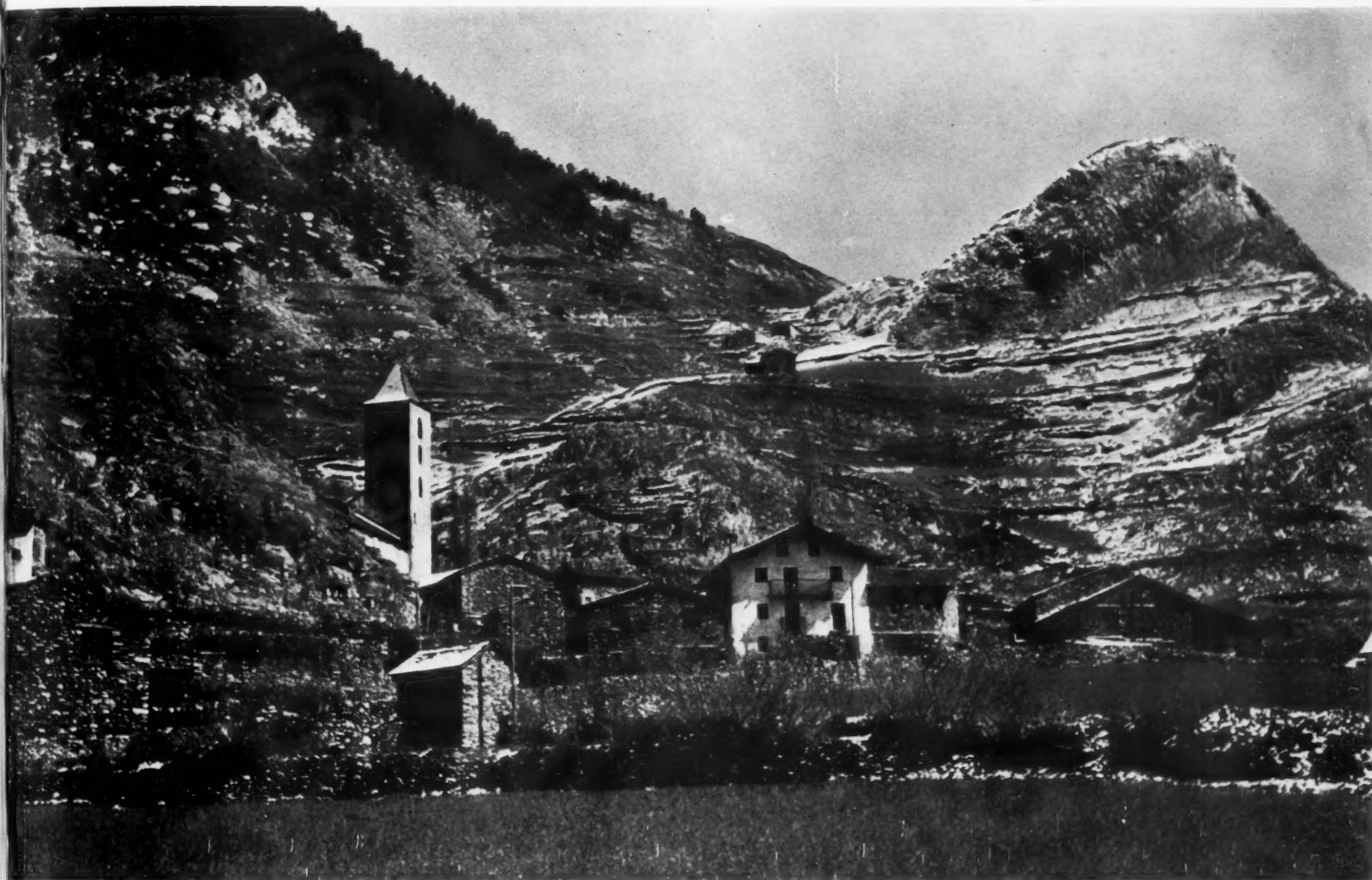
The status of Andorra under modern international law has never been precisely and authoritatively defined. The original count of Foix and bishop of Urgel were feudal lords, not sovereign rulers. The former, for example, owed his ultimate allegiance to the king of France. It is a moot point whether the head of the French government, who inherited from the monarchy the rights of the counts of Foix which ultimately became vested in the ruling house, did not inherit also the theoretical sovereignty of which that house disposed. Analogous claims can be advanced on behalf of the Spanish government, who might also point to the fact that Navarre is now part of Spain and not of France. For the present, however, the point remains academic and is canvassed only by legal theorists. Neither the French nor the Spanish government has so far cared to lay absolute claim to the valleys of Andorra, because the valleys of Andorra have not so far been considered worth a quarrel. Thus the Andorrans have been left to enjoy an autonomy subject only to the benevolent supervision of their feudal lords.

In official documents Andorra is referred to as the "Co-principality of the Valleys of Andorra." Each of the co-princes has the right to appoint an administrative officer (a provost) to represent him in the valleys. The provosts in turn appoint executive officers known as *battles*. It is significant that the *battles* must be Andorran subjects, chosen from a list drawn up by the council-general of Andorra. Andorra has no written laws and its five-thousand-odd inhabitants are ruled entirely by custom. The *battles* try civil cases, if necessary consulting the oldest inhabitants to discover precedents.

The effective government is in the hands of the council-general and the parish councils. The former sits three or four times a year in the Casa dels Valls, or House of the Valleys, a gloomily impressive sixteenth-century building at Andorra la Vella, which is also prison, schoolhouse, banqueting-hall, and dormitory for the assembled councillors. Election to the council-general was formerly a prerogative of a few leading families, but has been placed on a broader basis since Andorra entered on its progressive phase some two or three decades ago. The story is that the householders of Andorra obtained this concession by locking the members of the council in the council-chamber and refusing to release them until they had agreed to forgo their privileges. Nowadays every head of a household is entitled



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The primitive villages of Andorra were very nearly swamped in a deluge of financial exploitation towards the end of the nineteenth century when an attempt was made to establish an autonomous gambling republic on the Monte Carlo model. However, energetic French opposition preserved it and since then even the recent upheavals almost everywhere else in Europe have not disturbed its remoteness. Canillo in the Valira del Orien is a typical village and bears a characteristic flavour; a sombre blackness caused by the weathering of the local stone.

PLATE II

August 1940

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*From Andorra Spain is the more accessible country. Urgel and ultimately Barcelona are reached by a rough road which was once a mule track. On the north mountains, such as the Pic de Font-Frède, top, 9,000 feet high, divide it from France, the road to which is impassable during the winter and early spring. Bottom, Encamp, a more substantial village in the largest and most fertile of the three valleys of Andorra. Here the local stone has not weathered to the same severe blackness as in most of the other villages. In the background, the tall, square Romanesque church tower dominates the squatting stone houses.*

to vote or stand for election to the council-general; and the concentration of power in a few hands is discouraged by a rule which forbids serving members of the parish councils to sit on the more important body.

The primary aim of Andorran custom-law is to safeguard real property and prevent its dispersal. The head of every household has sole control over the property: the remaining members of his family must obey his orders and are virtually his servants. On the other hand all have approximately equal enjoyment

of it, are entitled to maintenance, and eat at the same table. The head of the household is expected to exercise his authority for the common good and to consider the interests of everyone under his roof when he comes to use his vote. Not even prolonged residence abroad can destroy the right of the Andorran subject to maintenance in return for his services, so that destitution is unknown, and could only happen to the individual if an important crop failed, or to the community if the population rose above the capacity of the country to

support. The Andorrans practise a rudimentary kind of social insurance designed to provide contributors with funds in an emergency. They are a stocky, sturdy, shrewd, tenacious, rugged race, whose most obvious characteristic is their astonishing likeness to each other.

Life in the valleys of Andorra is primitive and even patriarchal. The Andorrans are shepherds, cowherds, smugglers, and tillers of the soil. There are fields high above their valleys where they plant the rye for next year's crop





*Andorran churches are an undeveloped Romanesque, usually with a small apse and a square separate tower, and since the twelfth century the sheltered culture of the region has left little trace of architectural development. Left, the church of Santa Coloma near Andorra la Vella, the capital of the co-principality. Its round tower of rough local stone is an unusual variation. Right, a closer view of the church of Sant Joan de Casellas, seen in the photograph on page 48.*

before the current year's is gathered. Yet tobacco ripens quickly in the hot brief summer of the Gran Valira, and is their principal commercial crop. They live in roughly but solidly built stone houses with small windows and broad wooden balconies. The local stone has the property of turning almost black on prolonged exposure to the weather, which gives to many Andorran villages a strikingly sombre and forbidding air. A few of the houses are plastered and white- or colour-washed, and at Sant Julià de Loria, the nearest village to Spain, a former capital and still the most important trading centre, one finds a lighter style of domestic architecture, in which there is some attempt at graceful ornament on doorways and balconies. Andorran churches are mostly severe Romanesque buildings of the twelfth century, notable for their tall square towers topped by steeply pitched roofs. Their general plan, which nearly always includes a semi-circular apse, recalls the neighbouring churches of France and Catalonia; but these towers, and the use of the local material, give them a distinctively Andorran character.

For many years past the political ascendancy in Andorra has been French. The cultural ascendancy, however, has remained with Spain. Urgel, connected with Sant Julià de Loria by a mule track which is now a road, is the market town of the Andorran: Barcelona his metropolis. A Spanish bishop is responsible for his spiritual welfare and his priests are trained in Spanish seminaries. It is the French, however, who have brought to Andorra such benefits as civilization is able to confer on these lonely valleys. Towards the end of the nineteenth century a group of speculators planned to turn Andorra into a sort of inland Monte Carlo, where roulette would be permitted. The French authorities refused to countenance the scheme, but the bishop of Urgel was more amenable. The proposal caused tremendous dissension in Andorra. By moving a battalion of infantry to the frontier at the height of the uproar, the French caused the withdrawal of the scheme, removed the threat of Spanish intervention, and gained a substantial diplomatic victory.

They followed it up a few years later by establishing telegraphic communication between Ax-les-Thermes and the Andorran capi-

tal. They began to administer an efficient postal service in the valleys. For a dozen years a bus has plied in summer between Andorra la Vella and Urgel; but motor-coaches have also brought scores of French tourists from Ax to inspect the Casa dels Valls.

The custodian, unlocking its massive door with a key of theatrical proportions, invited them to gaze upon the tricorne hats and robes of office of the councillors, and admire the signed photograph of Albert Lebrun which hung in the council chamber. French officialdom cast its bread upon the waters. Up to 1939 the military staff were said to take an interest in the strategic risks and possibilities of Andorra.

Meanwhile, industrial civilization has set foot in the valleys. A hydro-electric power-station, financed by French and Spanish capital, supplies Andorran houses with current. Close to the Andorran frontier lies the iron mine of Puymorens, connected with L'Hospitalet by a cable railway. There are probably similar deposits in Andorra. At present they are unexploited because there is no economic way of getting ore across the mountains to the railway. In spring the valleys of Andorra are still green, and a string of ponies runs along the road before one's car. The Andorrans are a rugged, self-sufficient people, but their lives are hard. One day the problem of transport may be solved, and the mineral wealth believed to lie in the Andorran mountains be exploited. By force or by will, Andorra will then have fallen into line with the rest of Europe, and abandoned her obstinate opinion that simplicity and independence are worth more than coined money.





## HOSPITALS

THOMAS WORTHINGTON AND SONS

**THE SITE** A dental hospital and school attached to the University of Manchester. The building occupies an island site adjacent to the University and well set back from the road. The scheme will be completed by the addition of a medical library on the Coupland Street front.

**PLANNING** The two elements of hospital and school are intimately related and an endeavour has been made to maintain this relationship without disturbing the circulation of patients in the hospital sections which have been planned to deal with 80,000 attendances per year. Patients pass from the waiting hall, through an examiner's room to the east wing, for extractions under local and general anaesthetics, and to the second floor to a large conservation room, children's clinics and other

1, the main elevation from the south-east. There is a separate entrance for students on the west side near the main University buildings.

# HOSPITALS

THOMAS WORTHINGTON AND SONS

specialized departments. In the west wing is the students' accommodation. On the ground floor are the common room, museum and library, and on the first floor lecture theatres and an operative technique classroom. Accommodation is provided for 180 students.

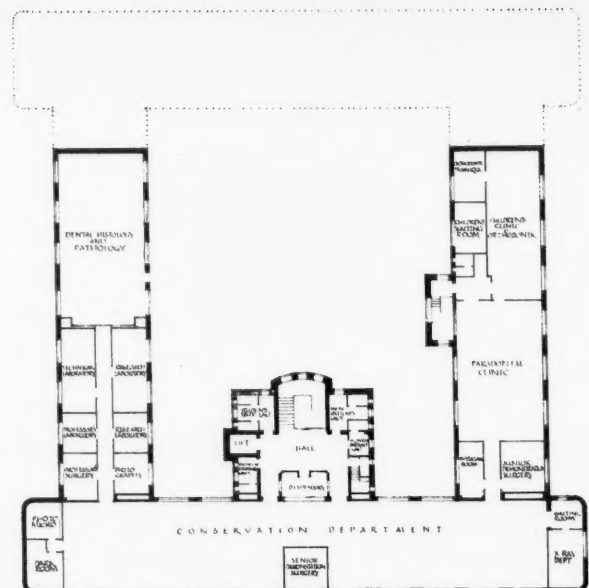
**CONSTRUCTION AND MATERIALS** Steel frame construction with brick in-filling and reinforced concrete hollow tile floors. The flat roofs are also of reinforced concrete, asphalted, and designed to resist incendiary bombs. The possible addition of another storey has been allowed for. Partitions are of hollow tile blocks. The building contains 105 dental chairs each having its own drain and water, electrical, gas and compressed air supplies. Horizontally these services run in diagonal lines in a filler floor, the base of the chair acting as a manhole cover. Vertically the pipes run in the internal re-entrants of the stanchions at every bay, with a removable steel plate for access. Externally the building is finished with red facing bricks and the base and string-courses are of Portland stone. There is a four feet high dust space between roof and ceiling over the whole building.

**EQUIPMENT AND FINISHES** The entrance hall, main staircase and landings are faced with cream travertine; the remaining corridors, waiting-rooms, theatres and conservation room are finished with granitese, pale green in the conservation room, pale blue in the theatres and children's clinic and cream elsewhere. Rubber is used for the floors of corridors, waiting halls and theatres on the ground floor, terrazzo for the lavatories, cork in the conservation room and children's clinic and woodblock in the laboratories and teaching rooms. The hospital section is, in the main, air-conditioned with thermostatic control. The laboratories have a mechanical extraction system, the entering air being warmed by hot water radiators. The heating and hot water supplies are served by calorifiers linked up to the main university boiler house. In the basement is a fully equipped laundry and compressed air plant. A projection apparatus is to be installed in the lecture theatre designed to provide students with an enlarged image of the operation being performed in the patient's mouth.

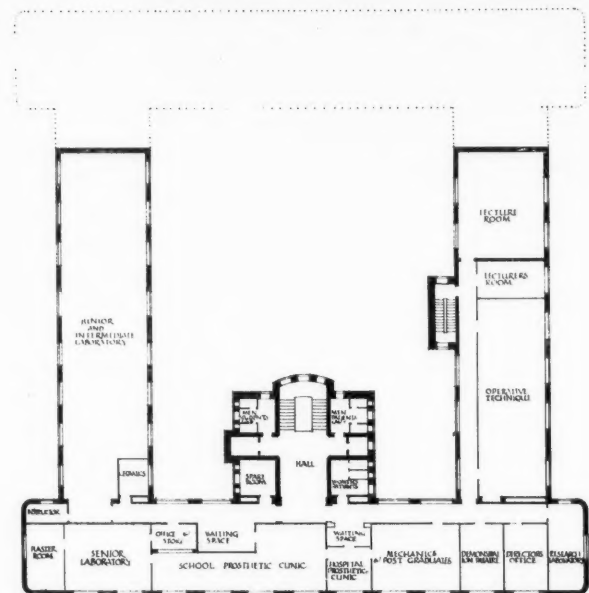
2, the pathology and research laboratory on the second floor in the west wing. The window, which is standard throughout the building, consists of a large plate glass centre in a wood frame with metal lappers and casements at the sides. The woodwork is painted cream.



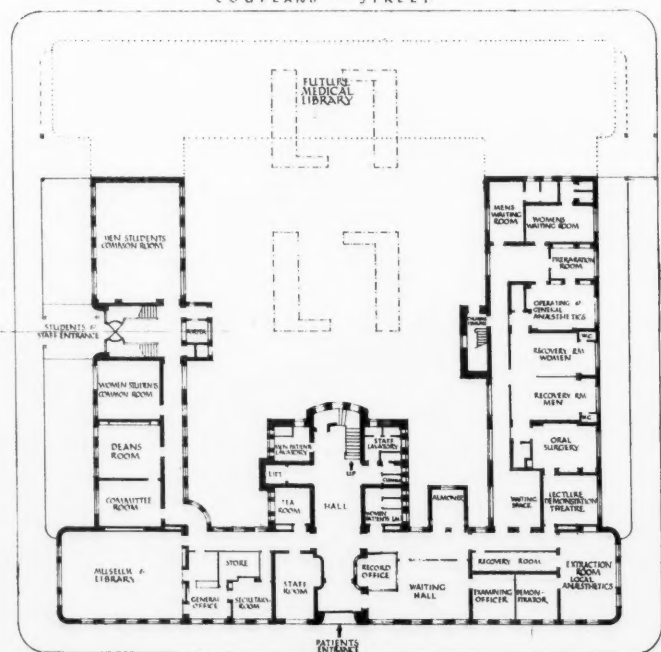
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SECOND FLOOR PLAN

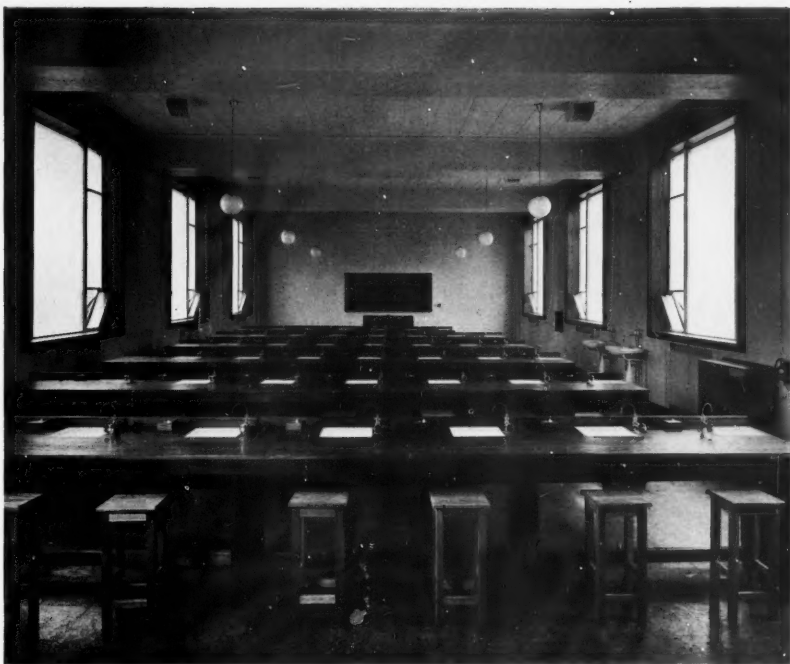


FIRST FLOOR PLAN



GROUND FLOOR PLAN





3, the histology and pathology laboratory on the second floor. 4, a landing on the main staircase faced with travertine. 5, the mechanical laboratory. 6, a recovery room adjoining the extraction room for operations requiring only local anæsthetics. A recovery room is also provided for patients to whom a general anæsthetic has been administered. 7, a corner of the extraction room in which glazed screens separate the patients' chairs, whereas in the large conservation room on the second floor the room is left open.



4



6



5



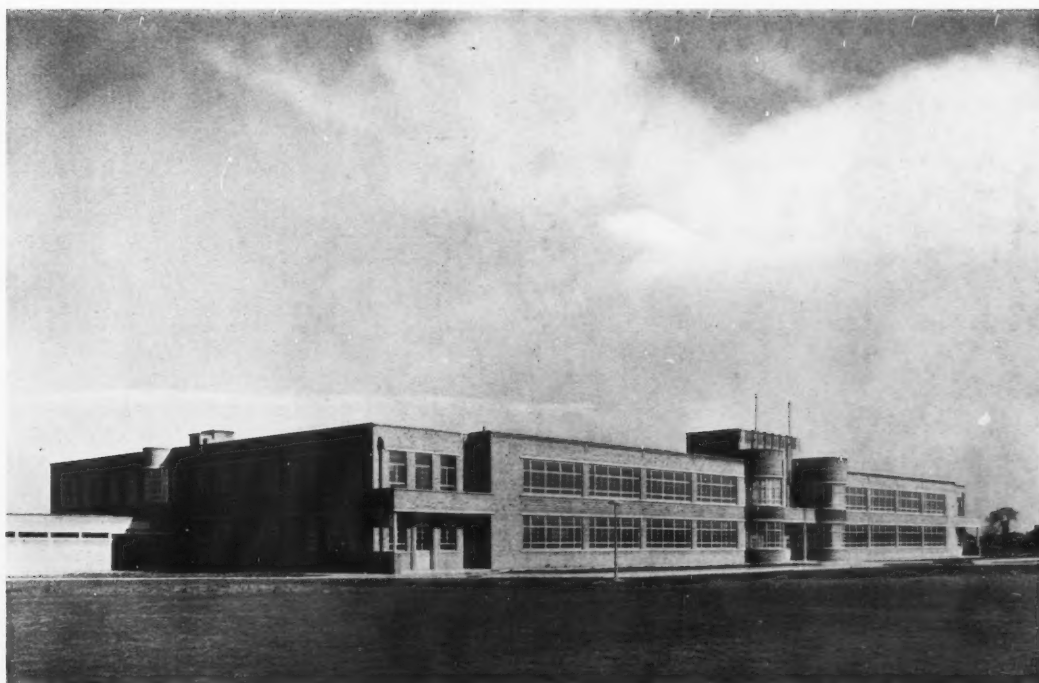
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## S C H O O L S , 1

ANDREW RANKIE  
(HULL CITY ARCHITECT)

**THE SITE** At Hull. To the south is an existing elementary school with a private road between. As this may come under a town planning scheme in the future, this new secondary school has been placed at the north of the site.

1, a general view from the south. The main entrance is on this side of the building but there are separate entrances for boys and girls on the north side.



# SCHOOLS, 1

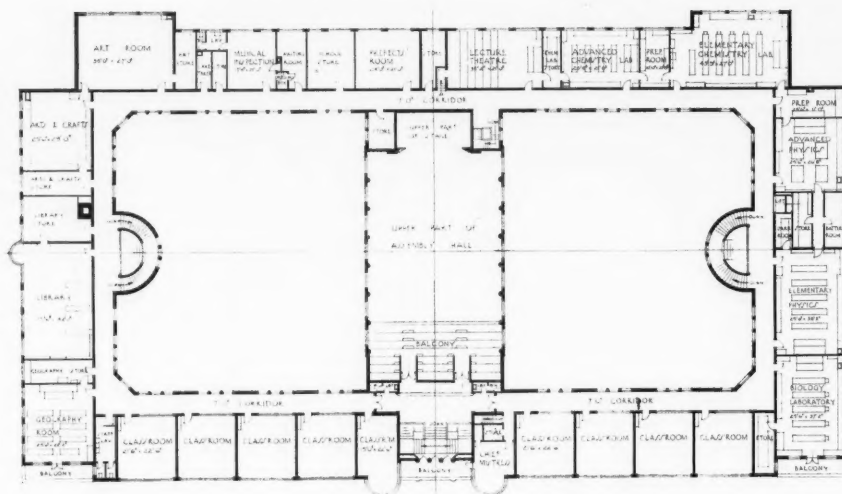
ANDREW RANKIE (HULL CITY ARCHITECT)



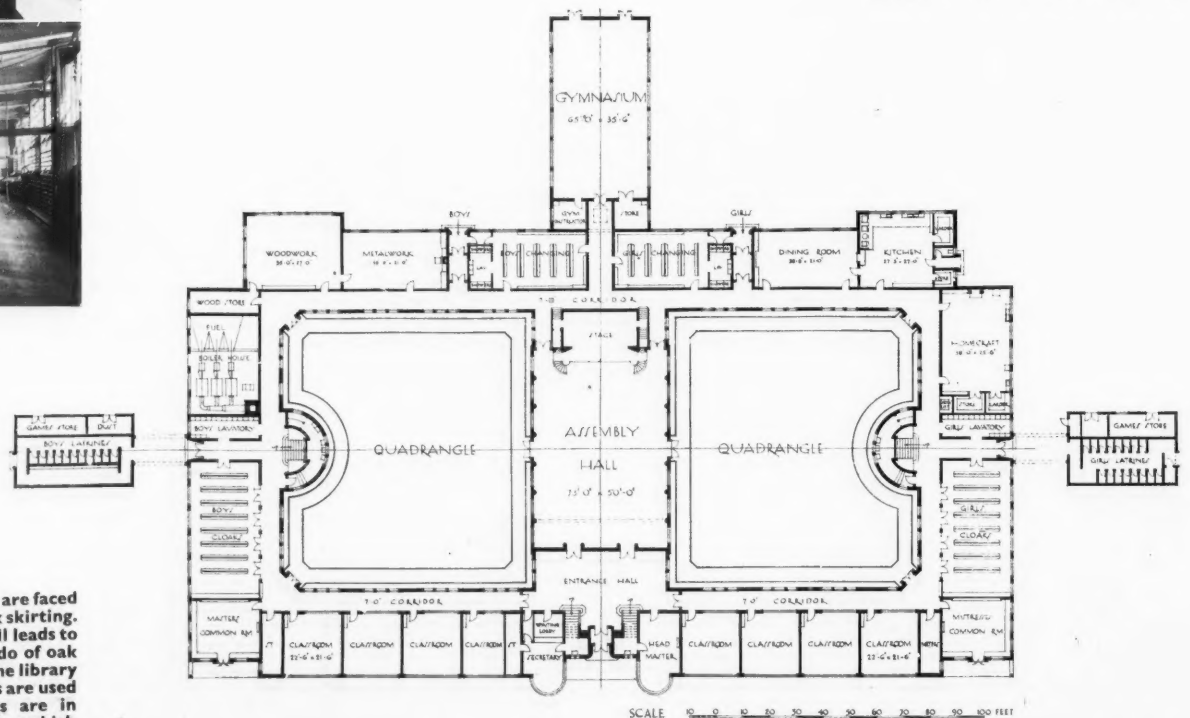
**PLANNING** The assembly hall forms the axis of a symmetrical plan with accommodation for boys and girls on either side, each enclosing a quadrangle. Classrooms are planned on the south side and workrooms on the north side, with the communal gymnasium in the centre on the north side. A corridor runs right round the building.

**CONSTRUCTION AND MATERIALS** The building is partly steel framed with external walls and most internal walls of brick. Roofs and floors are pre-cast beams. The facing bricks are a local multi-coloured rustic. Window cills and heads are finished with artificial stone.

**EQUIPMENT AND FINISHES** The walls and ceiling finishes generally are plaster painted. Floors in the classrooms are beech blocks and in the laboratories and ground floor corridors are strip jarrah. The semi-circular staircases on the east and west sides are finished with cream-coloured terrazzo. All doors are flush with glazed panels of Georgian wired glass. Heating is by low-pressure hot-water system and water heating is by local electric heaters. A small goods lift serves the laboratories on the first floor.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

2, the main entrance hall. The walls are faced with a grey-green faience with a black skirting. The floor covering is rubber. This hall leads to the assembly hall, 3, which has a dado of oak veneer and strip maple flooring. 4, the library on the first floor. Burma teak blocks are used for the floor and the furnishings are in oak. 5, a laboratory. 6, the gymnasium which occupies a wing on the north side with boys' and girls' changing rooms adjoining.



## S C H O O L S , 2

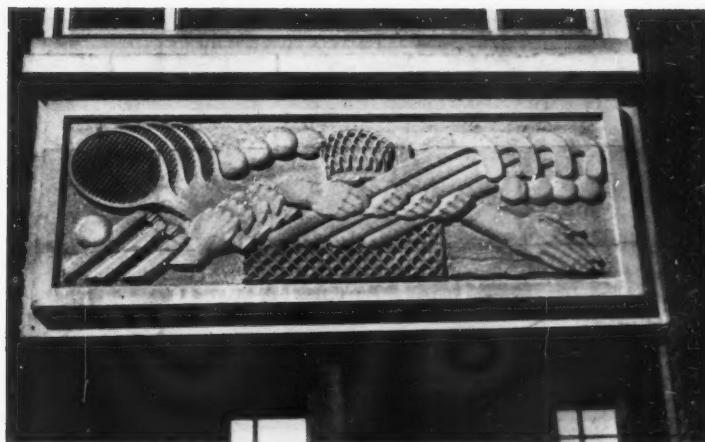
J. E. K. HARRISON

**THE SITE** An extension to James Allen's Girls' school at Dulwich, to accommodate 500 pupils. The extension links up with the old building.

**PLANNING** A new assembly hall and swimming bath were required and these have been combined, as the need for each is confined predominantly to winter and summer respectively. A number of new classrooms have also been provided, planned at right-angles to the assembly hall to face south-west, away from the main road. A music room and domestic science room are at the junction of the two wings.

**CONSTRUCTION AND MATERIALS** Solid brick walls with reinforced concrete floors and roofs supported on steel beams. Roofs are covered with built-up roofing on insulation board. Ground-floor partitions are 4½ in. brick, and first-floor, 4 in. partition blocks. The partitions separating practice rooms from the music and domestic science rooms are double with an inner leaf of breeze blocks built directly off 1 in. cork sub-floor and finished with a cork dado.

1, a general view of the new buildings from the east. The wing on the right contains the assembly hall and that on the left the classrooms. 2, and 3, two of the five panels by John Bickerdike over the assembly hall doors. They represent various school activities.





# SCHOOLS, 2

J. E. K. HARRISON

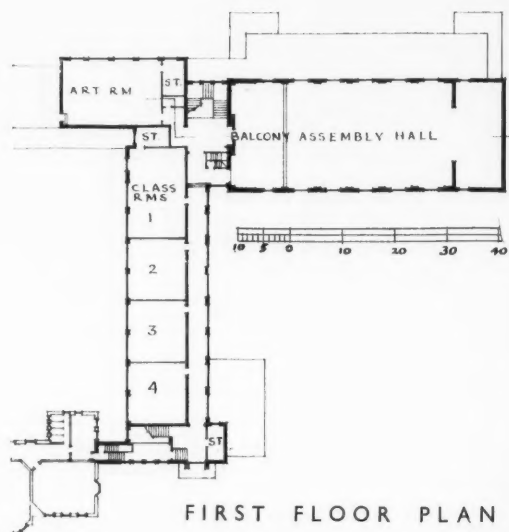


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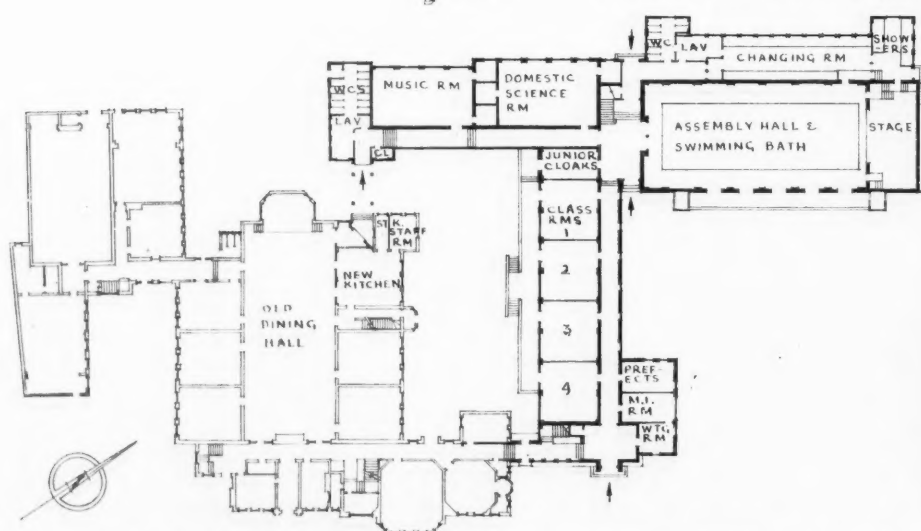


5

**EQUIPMENT AND FINISHES** The part of the building nearest the road and connected with the old building is faced with red bricks to harmonize with the latter, the remaining parts having multi-coloured facings. Dressings are in artificial stone. Steel windows set in wood frames are used throughout. The swimming bath is lined with white glazed tiles, with a band of blue-green tiles below the scum-trough. The bath surround and the floors of changing room and showers are of special non-slip composition consisting of rubber latex and cement. A dado round the hall 7 ft. 6 ins. high is in cement of a pale oyster shade, used also for the full height of projecting piers and around the proscenium opening. Walls between piers and above the dado are covered with acoustic tiles which are applied also across the back of the balcony and on the balcony front. In winter, the bath can be filled in with oak sectional floor supported on tubular steel staging. The diving stage is dismantled and the stage extended forward to proscenium opening. Steel staging and sectional flooring, etc., is accommodated in a store beneath the stage. All external and main internal doors are in oak, doors to rooms generally being flush with a small observation panel. Library fittings are also of oak. Heating is by low-pressure hot-water system with coke-fired boilers incorporating the system in the old buildings. Bath water is heated by a calorifier supplied by the same boilers which, in the summer, can also be used for supplying a moderate amount of heating to the building as well, if desired. The filtration plant is situated under the stage and deals with the whole volume of water in six hours.



FIRST FLOOR PLAN



GROUND FLOOR PLAN (WITH EXISTING BUILDING ON LEFT)

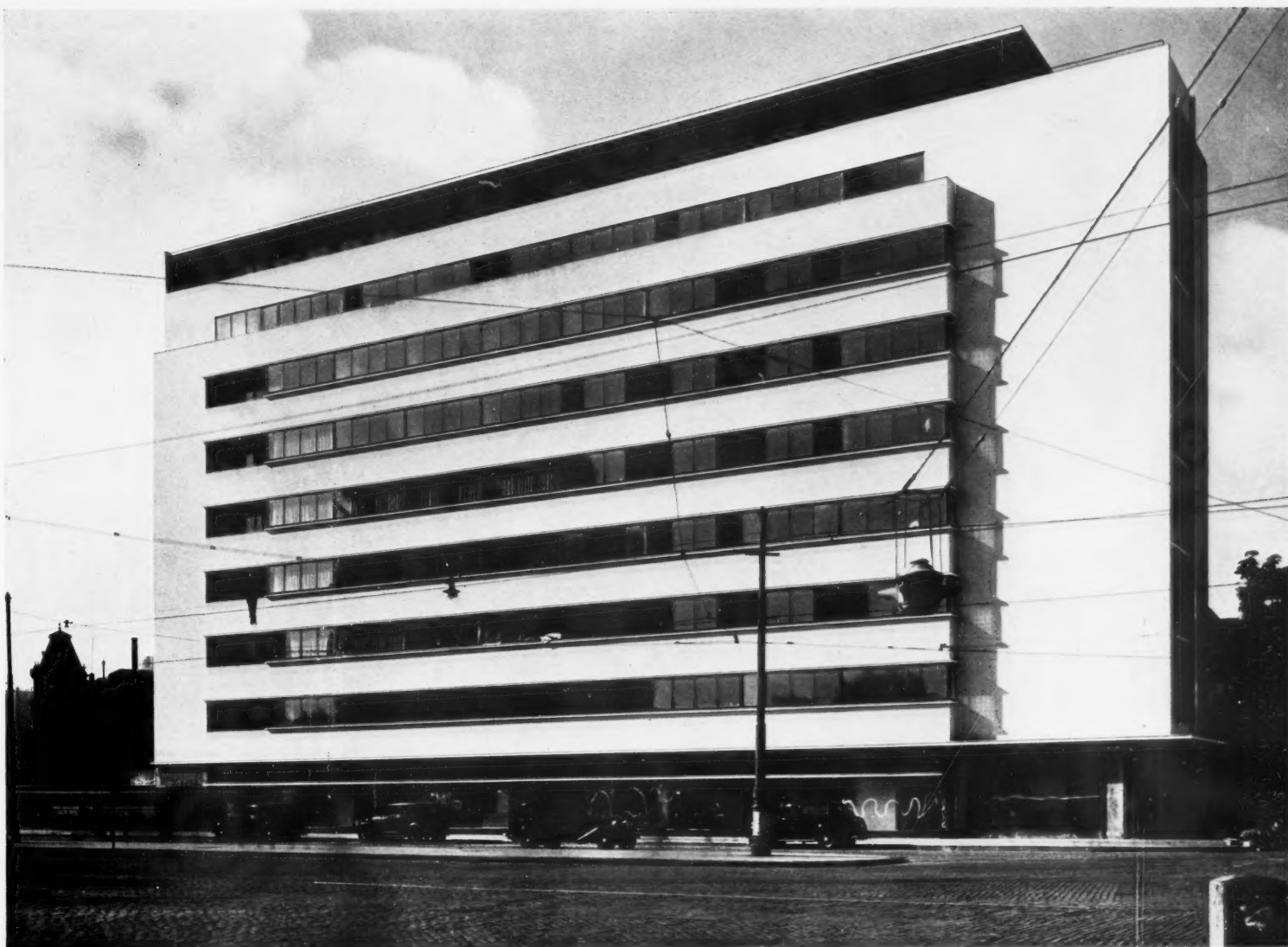


6



7

4, the entrance to the classroom wing. 5, the domestic science room. 6, the assembly hall looking towards the stage. 7, the same hall converted into a swimming bath.



1, a view from the main street. The exterior is rendered an off-white colour.

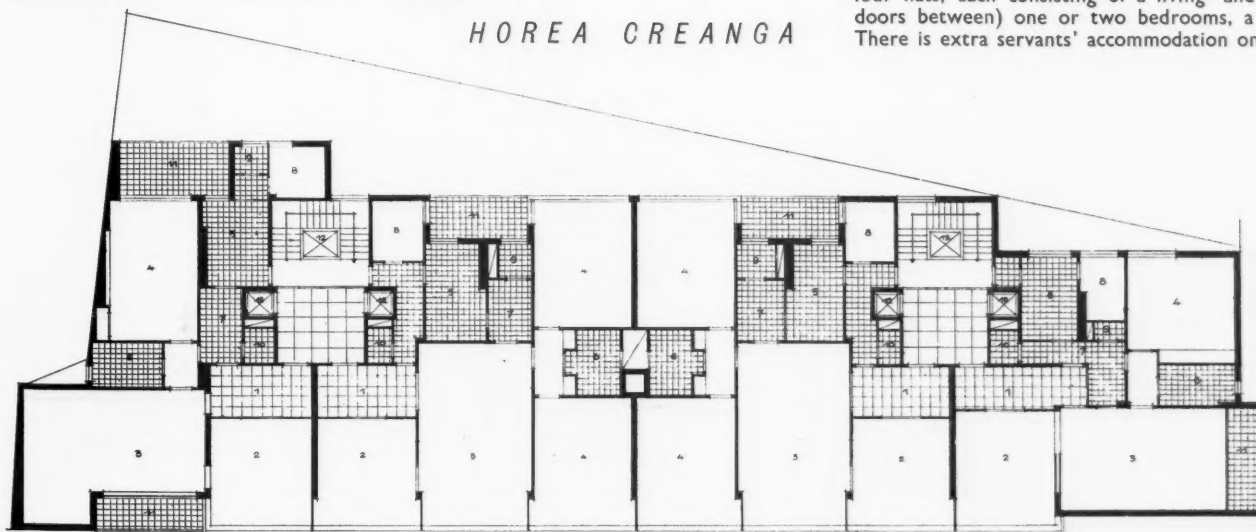
## OFFICES AND FLATS

RUDOLF FRANKEL AND

HOREA CREANGA

**THE SITE** Bucharest. The building is in a newly-planned main street of the city, and adjoins the grounds of a church.

**PLANNING** The lower floors are planned as offices and the upper floors as flats. The bedrooms of the latter overlook the church garden, and the living-rooms overlook the main street. Each floor contains four flats, each consisting of a living- and dining-room (with sliding doors between) one or two bedrooms, a loggia and service rooms. There is extra servants' accommodation on the top floor.



TYPICAL UPPER FLOOR PLAN

### KEY TO PLAN

1. Vestibule.
2. Study.
3. Living-room.
4. Bedroom.
5. Kitchen.
6. Bath.
7. Office.
8. Maid.
9. Larder.
10. W.C.
11. Terrace.
12. Lift.



2

2, a view looking along the main street showing the balconies on the end elevation which open off the living-rooms of the flats at each end of the block.

**CONSTRUCTION AND FINISHES** The building is of reinforced concrete construction throughout with the exterior rendered in an off-white colour. All windows are metal, sliding horizontally and painted a light grey. The ground floor is used as a shop and has

entrance doors and window frames of aluminium. The fascia bearing the name of the shop is of black opal glass. Its top member is continued to form a canopy over the pavement. There are six lifts in the building, serving offices and flats, and two additional staircases for emergency use.

## OFFICES AND FLATS

RUDOLF FRANKEL AND HOREA CREANGA



In these monthly articles the subjects discussed are primarily æsthetic ones. They are written on the assumption that efficient planning, sound structure and general honesty are now generally recognized as the things that must come first; but the fact that we have reached this point means that modern architecture can no longer claim exemption from criticism on æsthetic grounds. Modernity is not enough. As at all times in the past, a building must stand or fall by its superficial appearance, which in any case is all the Man in the Street has to judge by.

## CRITICISM

By James MacQuedy

WHY is it that the one "period" convention the contemporary architect clings to even when he has discarded all the others is the subdivided window pane?

Looking at architecture generally the most striking change since, say, twenty years ago is not the presence of a number of "modern" buildings—that is to say, buildings that display consciously a more or less developed modern idiom—but the effect the existence of this idiom has had on the work of architects who may not be at all aware of the changes they are sharing in. Gradually, and without adhering to any new movement, the average architect, who is first of all a practical man but also a man of cultivated, largely intuitive and rather negative taste, has been simplifying the masses of his buildings, discarding meaningless frills, taking more notice of the possible effects latent in broadly treated wall surfaces of carefully chosen material, admitting into his vocabulary such erstwhile daring symbols of revolt as cantilevered canopies and continuous tall staircase windows, and accepting new patterns of eills, copings and door frames of a kind that are obviously much more concerned with providing a neat and workmanlike finish than with conforming to stylistic precedent.

Thus we now have, as a starting-point for future development, a widespread type of building that is "modern" in the negative sense of not owing much artistic allegiance to the past, but which has not been specifically designed in opposition to familiar ideas and is thereby the more promising as a basis for a new common idiom. The "modern" buildings set the pace, but their very individuality puts them in a remoter category by themselves.

The type we are speaking of often retains strong echoes of the formal styles, largely observable in a preference for classical proportions, a conventional relationship of solid to void, and a tendency to forced symmetry; the gradual changes of which I am speaking being chiefly concerned with simplification and with the elimination of various academic conventions. The last of these that remains is the subdivided window pane, which still irritates by its fussiness and unreasonableness whoever looks at the average block of flats or municipal building in the hope of seeing a consistent idiom establishing itself. To try and discover why this one conventional motif should remain so long may throw some light on the sort of process by which architectural conventions sustain themselves even in opposition to reason.

It is not my intention in these articles to discuss technical matters, but it must be said—otherwise the question of the æsthetic deficiencies of small-paned windows becomes rather an academic

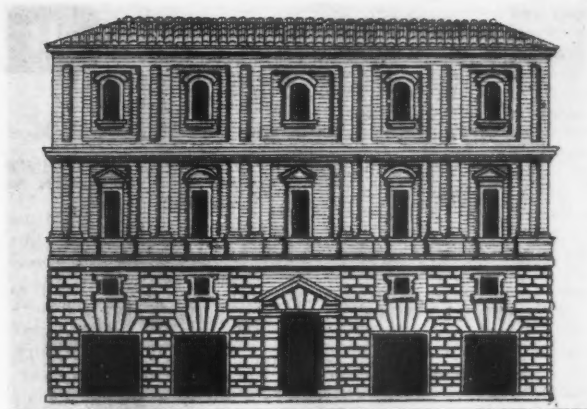
one—that the arguments in favour of small panes on practical grounds do not seem very strong ones. It is sometimes said that large sheets of glass are an expensive fad because of the cost of replacement on breakage. In answer, one may first point to the shopkeeper, who has had no hesitation in discarding the subdivided pane altogether, although one imagines that he has to watch maintenance costs as closely as anyone. He takes a pride in his wide, sleek windows and counts plate-glass among the blessings of civilization. One can also safely guess that in practice the chances of actual breakage are extremely small. In the average building a very large proportion of the glass must survive a whole generation without breakage, so the risk of having to replace a large rather than a small piece of glass following a mishap cannot be anything like great enough to cancel out the saving of time and labour in cleaning the undivided, as against the heavily subdivided, window, to say nothing of the greater amount of light let in. And when the situation of the building makes wind-pressure an important factor, for the same reasons of easy cleaning and uninterrupted light, the use of wired glass—or other reinforced glass—is clearly more efficient than the introduction of glazing bars.

So on practical grounds the large pane

wins, and we can take it that any discussion of the relative merits of large and small panes can be conducted in æsthetic terms. The prejudice against the elimination of the small window panes that belong to various past styles of architecture and to periods when large pieces of glass simply were not obtainable, is so strong that it has led architects who are honestly anxious to free themselves from the misleading associations of historical detail to invent a substitute for the conventional Georgian rectangle in the form of the "modernistic" horizontal rectangle that at least pays tribute to a change of idiom without acquiescing in any change of scale.

This horizontal glazing unit has spread with astonishing rapidity\* since it was introduced about twenty years ago as a rather arty personal mannerism. Although it has no practical advantage

\* I prefer to leave it to the future historian to trace the gradual infiltration of this motif into the architecture of the 'twenties and 'thirties. I will only go as far as to suggest that it came in with the Swedish fashion which was brought back from Architectural Association tours about 1926, and that it spread simultaneously by way of the "modified Georgian" garden-city cottages (Welwyn and elsewhere: 1925-30) and the first jazz-modern villas of the following years (e.g. Silver End by T. S. Tait, 1928), until it was more publicly linked up with progressive design by its use in the series of new Underground Stations designed by Charles Holden



The engravings of buildings in eighteenth century pattern-books invariably showed the doors and windows as solid black rectangles without subdivisions, indicating that the latter were not looked upon as essential to the scale or pattern of the façade. The convention that window bars must be preserved to "give scale" is quite a recent one. The above is from Henry Aldrich's "Civil Architecture," published in Oxford in 1789.

over the vertical Georgian style unit,† it has even been standardized by metal window manufacturers and has become the hallmark of the jazz-modern. But it is not confined to jazz-modern buildings and is, in fact, the type most frequently employed to achieve that fussy subdivision of window spaces that so frequently ruins the appearance of the decently contemporary, decently simplified building described above.

Presumably this prejudice is due to anxiety about scale—as though scale were a fixed and permanent thing. A theory used to be taught in the architectural schools—and still is, for all I know, in some of them—that window subdivisions "give scale" to a building; but that this is only a recent convention and not, as the pedagogues pretend, a canon of classical correctness, is indicated by any book of eighteenth-century engravings in which the classical

in the early 'thirties—Enfield West and several others. Other milestones in its triumphal progress were its standardization in metal form by Crittalls and its sudden wholesale adoption for the small industrial buildings that sprouted along the western exits of London.

† Except the comical one, which I have heard seriously put forward, that it is "more logical" because the human eyes are placed alongside each other and not above each other!



The "busy" effect of small-paned windows, completely transforming the character of an otherwise simply detailed building, is shown on the left (Westminster Hospital, by Adams, Holden and Pearson). The panes are of the fashionable horizontal shape. Compare them with the large, clear glazing of the building on the



right (flats at Stepney, by Adshead and Ramsey) which contributes considerably to the general effect of breadth and repose. These two illustrations are given to show the effect of different window treatments, not with any intention of labelling one a bad or the other a good building.

rules and precedents were set down for architects' and builders' guidance. For invariably in such books as Campbell's *Vitruvius Britannicus* the voids are indicated by solid black masses; the pattern of the façade, that is to say, is presented for judgment without any window subdivision.\* But whether this scholastic insistence on "scale" is or is not a true interpretation of the Renaissance ideal, it is certainly out of keeping with the modern one. Scale changes as other things change which are only determined by the habitual preferences of one generation. Partly it is a question of fashion,† partly the natural urge to take advantage of technical improvements—for never in the past has man deliberately built less skilfully than he knew how—and partly one of conformity, consciously or unconsciously, with the general trend of a new aesthetic vision. This is not the time to discuss what difference there may be between a fashion and a style; still less what is the nature of the new style being produced by a new aesthetic; but there is no doubt that as it shows itself at present it takes much of its expressive character from its breadth of treatment and simplicity of surface, as exemplified in the clear glass leaves of a large-paned window, and that it also takes much of its impressiveness from a brave-new-worldly enhancement of scale, whether seen in the sweep of an arterial road over a landscape or the uninterrupted ribbon of glass in a continuous window opening.

I suppose one would have to seek an explanation of this in the old story of the effect of machinery on our standards of design. An intimate scale belongs to the world of individual craftsmen, when the object itself, rather than the pattern of the object, was the measure of achievement, and when there was virtue in complication and intricacy because of the labour it represented. A grander scale belongs to the modern world of industrial production, as it belonged to the Egyptian world of unlimited slave labour. Moreover, as the tempo of life increases and new communications expand all our horizons, it is natural for our architecture to reflect the general widening of vision.

Whatever its origin this quality of breadth, allied as it is with simplicity, is, regarded as a positive aesthetic attribute, peculiarly susceptible to destruction. It is a delicate plant, that clumsy handling easily destroys; and what modern architectural design is suffering from more than anything else at the moment is that the evolution of formal characteristics has moved too far ahead of the designer's formal sensibility. So to return to our subdivided windows, to a previous generation's eyes the difference between the large- and the small-pane treatment would only have appeared as an unimportant variation in the richness of the pattern that covered the building's surface, whereas to our eyes the fussy window subdivision of so many otherwise simply conceived buildings becomes an insupportable blemish.

I will leave it to the accompanying illustrations to show more precisely what a difference this change from purity to fussiness in the window design can make to the whole character of a building, particularly when the fashionable horizontal unit is employed, which cannot even claim in compensation for the loss of aesthetic purity the comforting associations of the familiar Georgian sash window.

\* It is interesting to compare such diagrammatic representations of the bare bones of architecture as these engravings represent with the water-colour "renderings" fashionable these past twenty years in the Royal Academy Architecture Room, in which a striking finishing touch is contributed by thick window bars added in Chinese white with a ruling pen.

† It may not be irrelevant here to speculate whether the war-time device of pasting strips of paper cross-cross on our windows is going to set a post-war fashion for permanent subdivision (because people will not feel safe without), or whether a complete reaction in favour of clear plate-glass will set in because of the unhappy associations that lines across the windows will then have.

## BOOKS

### Modern Architecture without Tears.

AN INTRODUCTION TO MODERN ARCHITECTURE. By J. M. Richards. Penguin Books, Ltd. Price 6d.

WERE I asked if I considered it an easy task to write a popular book on Modern Architecture I would say, no, for at least one reason, that it is still an unpopular subject.

Ever since the word *modern* was endowed with a significance which exalted it above the meaning of *contemporary*, its application to the activities of art and architecture have embarrassed both to a considerable degree. The trouble, from the popular point of view, lies chiefly in the implication that modern art in all its manifestations is something sudden, unforeseen, and unconnected with natural causes; something outside the reach of British legislation and insurance, an act of God in fact; or the Devil, rather, to be frank. But we need not go here into the crusted and barnacled case of Rex versus Modern Art.

With Architecture, it has been much the same with variations. Only, the architects, or their publicity agents, were cleverer than the artists. Instead of appearing, almost always, as a bogey of some sort, Modern Architecture invented several sirens with which to charm the public. These were not only good to look at ("Streamlined" was the expression) but *sounded* well. However, something went wrong. Too many people were led up the garden path, or, rather, the concrete way, by the attractions of *Functionalism* and *Fitness-for-Purpose*. Those engaging frauds were found out, discredited, and Modern Architecture no doubt suffered a set-back.

Today, we are all wiser. We do not allow the public to be carried away by slogans and axioms. We try to persuade them to judge the whole matter for themselves with a cool head. We ask them, merely, to study or even take an intelligent interest in a subject which so inevitably affects their lives.

In *An Introduction to Modern Architecture* Mr. Richards has achieved a difficult task, apparently with ease. His opening sentence shows that he is not in the least afraid of what may be implied by his title. "The words modern architecture," he says, "are used here to mean something more particular than contemporary architecture. They are used to mean the new kind of architecture that is growing up with the century as this century's own contribution to the art of architecture; the work of those people . . . who understand that architecture is a social art related to the life of the people it serves, not an academic exercise in applied ornament." That is the way to lead off, certainly. He proceeds from there to answer all the questions his readers may be relied upon to ask, and, so to say, shut their mouths before they have time to interrupt. But there is nothing particularly didactic or doctrinaire about this treatise. Mr. Richards knows his subject so well and has had so much experience of the reactions of a variety of readers, that one feels he must succeed where many other writers have failed.

If he does succeed it will be because he is able to move progressively, consolidating his position as he goes forward. Beginning by showing the need for a clear architectural language, such as we have not known since the 18th century, he proceeds to account for the degeneration of style and the loss of the essential principles underlying good building. He explores and explains the relationship between architecture and machinery, emphasizing the great changes which have come about, particularly pre-fabrication. The vexed problem of ornament, naturally, follows and then the strange depths of psychology in regard to comfort, the human note and homeyness are sounded. There is an interesting chapter next on new materials and methods, which cannot fail to stimulate the most sluggish reader; even to tipping him over into the further chapter on the Growth of the Idea.

To say more in detail in a short review would

not be profitable. But I should like to add that this book is exhaustive *within its scope*. I do not feel that it has a full, adult scope. This, surely, is Modern Architecture, without Tears. It is well illustrated, again within limits, by 40 plates, 17 of which show examples of the English contribution. There are also numerous drawings and diagrams in the text. I regret the publishers did not take more trouble over the cover, which is a poor advertisement for a good little book.

PAUL NASH

### SHORTER NOTICES

SURVEY OF LONDON. Vol. XX: Trafalgar Square and Neighbourhood. London County Council. Price 21s.

By the time the L.C.C. Survey has been completed, in however many hundreds of volumes, London will be a better documented city than any in the world. The comprehensiveness of the L.C.C. Survey, which is published under the general editorship of Mr. W. H. Godfrey and Sir George Gater is remarkable. This large volume, for example, deals with one corner of a single parish—that of St. Martin's in the Fields. The church itself is described in exhaustive detail, forming on its own a study that has long been needed. Apart from the church and a few houses in the Haymarket and St. Martin's Lane the ground covered represents nineteenth-century development not eighteenth, for it includes parts of John Nash's metropolitan improvements, notably Carlton House Terrace.

The latter's predecessor, Carlton House, is given a chapter to itself. Also included are those delightful twin turrets at the corner of Adelaide Street, the lamented Morley's Hotel which was demolished to make way for South Africa House, the houses by Lewis Wyatt, as well as those by Nash, in Suffolk Street, and Decimus Burton's work at Charing Cross Hospital. Strangely, the text does not mention Smirke, to whom the first of these is usually attributed.

The illustrations, as usual, include a number of informative prints and drawings from the Council's collection. Among the latter is a charming water-colour, reproduced in colour, of Berkeley House, Spring Gardens, in 1859. It is announced, alas, that this volume will be the last to be issued till after the war.

A LITTLE BOOK OF ARCHITECTURE. By Norman Jewson. Oxford University Press. Price 1s. 6d.

THERE is little in this conventional little book one can take exception to, but it might have been published any time during the last forty years and its antiquarian attitude to the architecture of the past is more typical of the closing years of last century than of today. But it is cheap and nicely produced, though one wonders why a book about English architecture exclusively should bear a wrapper illustrating the Parthenon and end-papers illustrating Amiens Cathedral and the Pantheon at Rome.

In form it consists of the conventional summary of the external characteristics of the various styles of English architecture, with the conventional type of line sketches in the text, illustrating Norman zig-zag ornament, a thirteenth-century capital, a hammer-beam roof, a Jacobean staircase finial, a Georgian sash window, and so on. There are also several full-page illustrations in which one is glad to observe use made of artists sensitive to architectural character as a change from the ubiquitous camera. There are reproductions of two etchings by F. L. Griggs and two engravings after Cotman. Unfortunately the other drawings reproduced are quite unworthy to stand beside the work of these two admirable artists.

A final chapter of the book, entitled "The Last Hundred Years" gives due praise to the achievements of the vernacular domestic school led by Voysey and Ernest Newton (though without mentioning names), but is otherwise entirely unappreciative of the merits of the Victorians within their own limitations. It seems to be a convention in potted histories of this sort that mention of the "Battle of the Styles" and the eclectic philosophy such a battle implies, should be accepted as sufficient condemnation of the quality of the buildings erected, whereas the nineteenth century produced many sensitive and original artists whose work individually is no less admirable because collectively they were at cross purposes with life.

The author also ignores the most important contributions of the nineteenth century to the English architectural tradition: the Victorian baroque vernacular and the work of the architect-engineers. He also shows himself strangely unaware of the philosophic basis of modern architecture, particularly its relation to the past.



# DECORATION



## Clothes Storage

The need to store property of various sorts often provides the *raison d'être* of the dominant element in the design of a room. Especially is this the case in the bedroom, which is as much a room for housing clothes as for sleeping in, and modern designers, recognizing this, design the room from the first for the complicated purpose it has to serve, instead of allowing its usefulness to depend on any furniture the client may care to import. An example of a fully designed bedroom is this one in a house in East Forty-ninth Street, New York City (Morris B. Sanders, architect). The built-in clothes cabinet dominates one wall of the room and is cleverly linked up with the fireplace surround. Other solutions of this problem are given on the pages that follow.



## Decoration as Storage

The series of articles of which this is the third are an attempt to examine the possible decorative use that can be made of one particular function of the interior, namely storage. It will be realized on reflection that it is not far from the truth to say that nearly the whole of interior architecture is concerned with the problem of storage. The designless home is that in which all the owner's possessions are heaped in a litter on the floor; the well-designed home is that in which each object has its appointed place; and the well decorated home is that in which the necessity of storing innumerable pieces of property is made the opportunity for an interesting sequence of shapes and patterns. The bedroom is as much dominated by the wardrobe and chest-of-drawers as by the bed; the

dining-room as much by the china-cabinet as by the table; even the old-fashioned kitchen was dominated by that obsolete piece of furniture the dresser, while the modern kitchen often appears to consist of nothing but an array of cupboards from floor to ceiling and wall to wall.

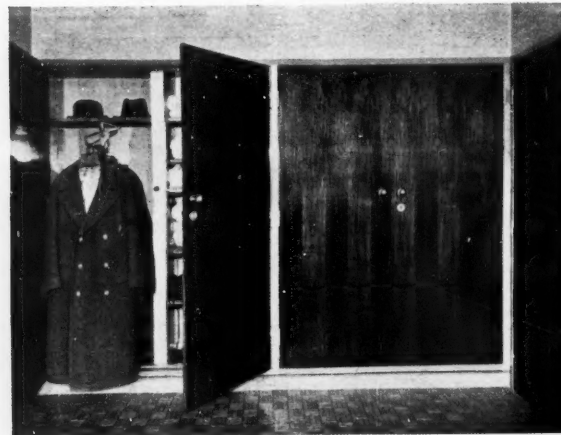
In these articles, by taking each object that has to be stored in turn, it is hoped to show what decorative effect the ingenuity of architects can extract from the efficient accommodation of it. The heading of the first article was Books; of the second Kitchen Storage. This month it is Clothes; that is to say, storage accommodation in the bedroom. The notes are contributed by Frederick Gibberd.

## 3 CLOTHES STORAGE

Wardrobe cupboards forming one complete wall of a bedroom. 1, House in Chester Place, London (David and Elsa Booth, architects). Wardrobes of white enamel, lipped with sycamore. 2, House in Avenue Road, London (R. W. Symonds, architect). Wardrobe, incorporating one mirror panel, in painted plywood. 3, House in Hampstead (M. J. H. and C. Bunney, architects).



4



5

4, Flat in Kensington (Frederick Gibberd, architect). Wardrobe fitting incorporating chest. 5, Flats in Avenue de Versailles, Paris (Ginsberg and Heep, architects).



1



2

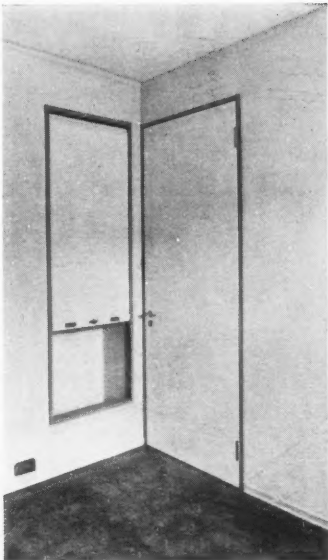


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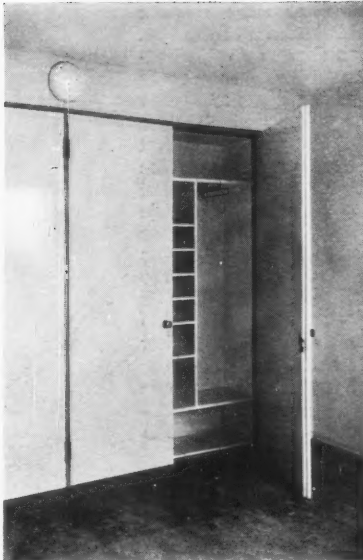
In assessing the æsthetic values of a large range of wardrobes, forming a complete wall or partition, it must be remembered that the design is in two dimensions; we are concerned with surface rather than volume. The door handles, and such features as a recessed plinth, introduce of course a third dimension but, compared with the individual wardrobe standing in the room as a unit of furniture, the aspect is a two dimensional one.

The simplest arrangement for a range of wardrobes is a series of plain doors hung on identical vertical divisions. When sensitively handled, as in 1, the design has a calm rhythmical quality which acts as a foil to the general furnishings of the room, which, being of a personal nature—the bedroom is an intimate room—will tend to be small, fussy and unrelated. It will be noticed that line has a very marked effect in this design; the divisions

Wardrobe units incorporated in plan. 6, single unit with door flush with wall surface; tambour shutter. 7, double unit with hinged doors. Both these are standard bedroom fittings from Highpoint Flats, Highgate (Tecton, architects). 8, House near Stratford-on-Avon (F. R. S. and F. W. B. Yorke, architects). Wardrobe unit forming partition between two rooms; sliding doors; Indian white mahogany.



6

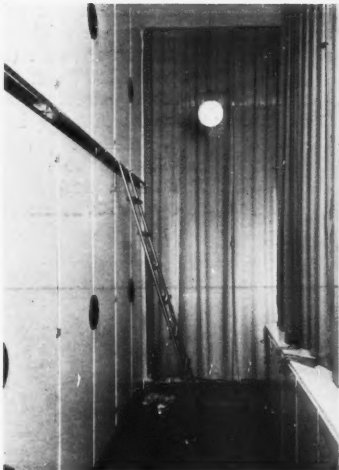


7



8

9 and 10, Flat in Vienna (Hoffmann and Augenfelf, architects). An unusual design where a great deal of storage space was required. The bed is placed in the centre of the room and cupboards built over the whole of the wall behind it. Curtains behind the head of the bed partition off a passage from which the cupboards are reached, 9. In 10 the curtains are partly drawn aside to show the cupboards. The upper tier is reached by a ladder.

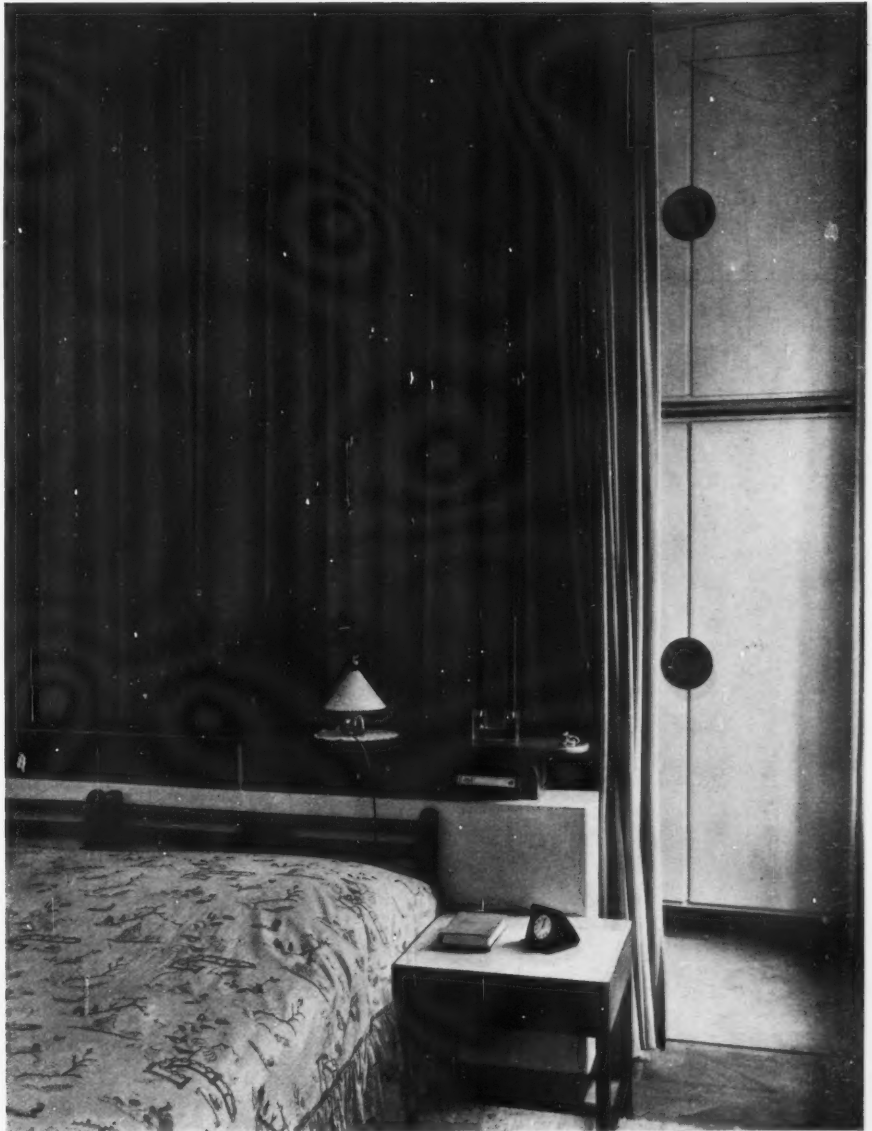


9

between the doors forming strong parallel verticals which appear to progress across an otherwise plain surface. A subtle contrast to these vertical lines is offered in the horizontal direction of the door handles.

When the doors are hung in pairs to meet in a thin line over a central internal division the proportions are completely changed. The rectangle framed by the bounding lines of the carcase is now twice the width and the thin meeting line and handles form a central focal point in each double door unit, 2. When there are only two double units, as in 5, the eye tends to focus on the vertical carcase line between them.

In the complete wall of wardrobes stretching between walls, floor and ceiling, a row of short cupboard doors is often added to make up the full height, as in 2 and 3. In the latter a second horizontal band is introduced



10



by the row of drawers at floor level, and there is a change in surface through the exposed edges of the sliding doors giving depth to the meeting lines.

The exigencies of planning or the structural system employed sometimes allow a clothes cupboard to be inserted into a wall. For example, the wardrobes in 6 and 7 occupy the void formed by a structural spine of wide columns and deep beams which runs along one side of the room. The doors are painted in with the wall surface but the knobs and the thin metal frame painted a darker colour indicate the pattern of the storage space behind. Clothes storage units may alternatively be used to divide one room from another, as in 8. Here the whole fitting is of the same wood and is carried over the door, maintaining the unity of the whole wall.

Individual wardrobes standing in front of a wall present a quite different problem. Here the storage is in the room rather than of it. As we have seen, in the built-in type the aesthetic is that of surface treatment; in the isolated wardrobe the third dimension comes into play and we are concerned with the space taken out of the room. Two alternative types are shown in 4 and 5. The usual pre-fabricated wardrobe has a central vertical partition making one compartment for vertical storage—coats on hangers, etc.—and the other for horizontal storage—linen, shoes, etc.—on shelves. This division can be seen in 5, where two units occupy one short wall. In a double

bedroom one of these units might alternatively be placed in each corner on either side of the head of the bed. Another solution for the double bedroom is shown in 4. Here the wardrobes are combined with a chest to occupy the blank wall opposite the bed. Each wardrobe is divided into three vertical compartments and, as two of these are for the same purpose of horizontal storage, they are behind one single door. This unequal door width keeps the design broad in feeling and avoids the centre meeting line which tends to isolate the wardrobe by making it symmetrical about a centre line. To assist the feeling of breadth further the small drawers in the centre of the chest are grouped together behind one sheet of wood with flush saw-cut joints between the individual drawers, and rounded external edges.

A small wardrobe in a single room requires careful handling to prevent it looking as if it had been just bought and dumped down. There have been some interesting solutions in recent Nurses' Homes. In many of these the wardrobe is placed in a corner with its back against the long side of the room, forming a bed recess between the side of the wardrobe and the wall opposite to it; when the room is deep the wardrobe is often kept a sufficient distance from the corner to form a recess for the lavatory basin. Alternatively, the wardrobe is placed against the long wall opposite the bed and co-ordinated with a bookshelf, chest or writing table.



11

11, House at Milan (Franco Albini, architect). Bedroom with built-in horizontal storage unit (left) and vertical (right); polished maple. 12, House in Sussex (Serge Chermayeff, architect). Clothes storage provided in a dressing-room which also serves as a lobby between principal bedroom and bathroom. The passage on the right leads to the staircase landing. 13, Hostel in Gower Street, London (E. Maxwell Fry, architect). Wardrobe units, in pairs, used to divide a four-bed dormitory into cubicles. Curtains form one wall of the cubicle and the wardrobe doors, when open, form another at right angles to it.



12



13



# Primeval

## Architecture

Day was still young as we rode between two great pikes of sandstone to the foot of a long, soft slope poured down from the domed hills in front of us. It was tamarisk-covered: the beginning of the Valley of Rumm, they said. We looked up on the left to a long wall of rock, sheering in like a thousand-foot wave towards the middle of the valley; whose other arc, to the right, was an opposing line of steep, red, broken hills. We rode up the slope, crashing our way through the brittle undergrowth.

As we went, the brushwood grouped itself into thickets whose massed leaves took on a stronger tint of green the purer for their contrasted setting in plots of open sand of a cheerful delicate pink. The ascent became gentle, till the valley was a confined tilted plain. The hills on the right grew taller and sharper, a fair counterpart of the other side which straightened itself to one massive rampart of redness. They drew together until only two miles divided them: and then, towering gradually till their parallel parapets must have been a thousand feet above us, ran forward in an avenue for miles.

They were not unbroken walls of rock, but were built sectionally, in crags like gigantic buildings, along the two sides of their street. Deep alleys, fifty feet across, divided the crags, whose plans were smoothed by the weather into huge apses and bays, and enriched with surface fretting and fracture, like design. Caverns high up on the precipice were round like windows: others near the foot gaped like doors. Dark stains ran down the shadowed front for hundreds of feet, like accidents of use. The cliffs were striated vertically, in their granular rock; whose main order stood on two hundred feet of broken stone deeper in colour and harder in texture. This plinth did not, like the sandstone, hang in folds like cloth; but chipped itself into loose courses of scree, horizontal as the footings of a wall.

The crags were capped in nests of domes, less hotly red than the body of the hill; rather grey and shallow. They gave the finishing semblance of Byzantine architecture to this irresistible place: this processional way greater than imagination. The Arab armies would have been lost in the length and breadth of it, and within the walls a squadron of aeroplanes could have wheeled in formation. Our little caravan grew self-conscious, and fell dead quiet, afraid and ashamed to flaunt its smallness in the presence of the stupendous hills.

Landscapes, in childhood's dream, were so vast and silent. We looked backward through our memory for the prototype up which all men had walked between such walls towards such an open square as that in front where this road seemed to end. Later, when we were often riding inland, my mind used to turn me from the direct road, to clear my senses by a night in Rumm and by the ride down its dawn-lit valley towards the shining plains, or up its valley in the sunset towards that glowing square which my timid anticipation never let me reach.

T. E. LAWRENCE.

*The Seven Pillars of Wisdom (Jonathan Cape 1930).*

richness and beauty of Morris' conception hangs like a thinning but still golden mist about the movement, and has continued to sustain the imagination of its surviving original members.

I am too young to remember the appearance of Raymond Unwin's so celebrated book on town planning, but reading it I can well imagine how it moved his contemporaries. It is full of the good sense of a man seemingly aware of the changing world for which he wrote, but the illustrations which give the book so strong an emotional appeal trace lovingly the lineaments of a medieval England in decay. That this aspect of Unwin's experience dominated his work no one who has approached Hampstead Garden Suburb from across the Heath will doubt. The medieval quality of the whole, so completely realized, takes the breath away by its loveliness. And it is the loveliness of a reconstructed medievalism, pedestrian and intimate in scale, conglomerate in character, but unified by the happily shared experience of its authors. It has nothing to say to the railway bridge under which most of its inhabitants must pass on their way to work, for it has the quality of a dream.

I rank Hampstead Garden Suburb as Raymond Unwin's best achievement, and feel that his reputation may rest well enshrined in this precious wrought jewel, yet in his life he was an eloquent, untiring and practical reformer, working from key positions in the architectural and governmental world; and he, more than any other single man, turned the soulless English bye-law street towards light, air, trees and flowers. And this was no mean thing to have done.

His work took place within a period of building expansion, and we, being a commercial and individualistic nation, set a low value on the idea, and bowdlerized it for profit. But it was in essence esoteric, and insufficiently valid over the range of industrially impelled society. Scorning the machine it voluntarily narrowed its sphere of usefulness, so that when we take up again the work which the war has stopped we have to expand Unwin's conception so as to include the machine, but not at the expense of light, air and verdure.

### The Last of the Crystal Palace.

Since the great fire of November 30th, 1937, two cylindrical towers, 280 feet tall, have stood alone, marking like tombstones the grave of the Crystal Palace. Now they are to be demolished and the Crystal Palace will be nothing but a legend. But perhaps it is as well, for looked at dispassionately the towers are ungainly objects with none of the brittle elegance of Paxton's edifice, and their survival would only be calculated to puzzle future generations as to why the *cognoscenti* of 1930 went into such ecstasies over the building of which these were the remnant.

The towers were added by the younger Brunel when the Hyde Park exhibition building of 1851 was erected on Sydenham Hill, with considerable alterations, in 1854. They served primarily as water-tanks, providing the necessary head of water for the many fountains which, together with the antediluvian sculptures, were the pride of the Crystal Palace gardens. They also concealed the flues from the heating plant. One of them acquired additional fame in the late 'twenties as the home of the Baird television experiments. It is strange that the B.B.C. television service, largely the outcome of these experiments, should also have been housed in a disused Victorian exhibition hall, the Alexandra Palace.

## MARGINALIA

### Sir Raymond Unwin.

Sir Raymond Unwin, this country's most celebrated town-planner, has just died at the age of 77 while on a lecture tour of the U.S.A. Sir Raymond was chiefly known to the public as a spokesman of the Garden City movement and as designer of some of the most well-known British examples. In 1903, in partnership with Mr. Barry Parker, he won a limited competition for the design of the first Garden City at Letchworth, and in 1906 he was invited by Dame Henrietta Barnett to plan Hampstead Garden Suburb.

During the last war he was Director of Housing at a department of the Ministry of Munitions, for whom he laid out housing schemes at Gretna, Mancol Village and Queensferry, and after the war he became Chief Architect, and later Chief Town Planning Officer, at the Ministry of Health. He retired from the Ministry in 1928, but served from 1929 till 1934 as technical adviser to the Greater London Regional Planning Committee.

Sir Raymond was elected President of the International Federation for Housing and Town Planning (in succession to Sir Ebenezer Howard) in

1928. He was President of the R.I.B.A. from 1931 to 1933 and was given the Royal Gold Medal in 1937. He received his knighthood in 1932.

The following memoir is contributed by E. Maxwell Fry.

With the death of Sir Raymond Unwin is severed one of the strongest links between the philosophy of William Morris and our own. The protagonists of the Garden City idea have been at pains to sever this connection, pointing to the industrial-urban structure of Welwyn Garden City as evidence of the capacity of the idea to enlarge its ideological boundaries; but the

## New Light in an Old Setting.

**M**ODERNIZING the lighting installation in an old building is never a simple task. The limitations imposed by structural and architectural characteristics allow the lighting designer a minimum of freedom, and the recognized principles of contemporary scientific illumination can seldom be fully applied.

The General Electric Company, who were recently asked to modernize the lighting in the Institution of Civil Engineers, found that there were many difficulties confronting them, chief of which being the fact that owing to the solid concrete structure of the floors it was impracticable to contemplate any drastic revision of the existing wiring runs.

The larger of the two photographs accompanying these notes shows the main entrance hall and central light-well in the Institute building.

This central light-well, which passes through three floors up to a glazed roof dome, provided a lighting problem that demanded careful consideration. In order to utilize an existing wiring point in the dome, and to avoid a multiplicity of lighting units, a specially designed three-tier indirect lighting fitting, was suspended from a single steel wire cable connected with the wiring point in the dome.

These three units, although uniform in appearance, vary in their internal construction in order to meet the lighting requirements at the different floor levels and, in the case of the two lower units,



*New indirect lighting at the Institution of Civil Engineers, Great George St., Westminster.*



care had to be taken to obviate the possibility of any direct sight of the lamps in the units from positions on the staircase and the balcony around the light-well.

Each unit consists of a lower bronze dish finished in white inside, surmounted by a small white enamelled concave reflector glazed at the top with white flashed opal diffusing glass dust covers. The light from the units is concentrated in upward, downward and lateral directions.

The smaller photograph is a view of one of the corridors on the first floor. Illumination throughout is by totally indirect lighting fittings. The installation was carried out by Messrs. Tyler & Freeman and all the special lighting fittings were designed and manufactured by the G.E.C.

### New Uses for an Old Material.

In a kitchen in Mayfair one can be introduced to a number of new and quite surprising applications of cast iron.

For most of us cast iron spells downpipes, soil-pipes, gutters, street lighting standards and super ornamental seaside

bandstands, but this Mayfair kitchen shows us cast iron used in sheet form as a most colourful and durable wall lining. We also find a glittering white double-section sink unit in cast iron, a novel kitchen table surfaced half in wood and half in cast iron and a very simple and pleasing cast iron clock face; in fact, we come away with the new-born knowledge that cast iron is not the prosaic metal we have always believed it to be.

Glazed sheet cast iron can be produced in any colour—it provides a wall lining



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Superintending Engineer, P.H.C., BEHAR:  
S. E. PLATT, O.B.E., B.Sc.

Contractors:  
Messrs. JARDINE MENZIES & COMPANY,  
CALCUTTA.

TOP LEFT: RANCHI, 20,000 gallons.

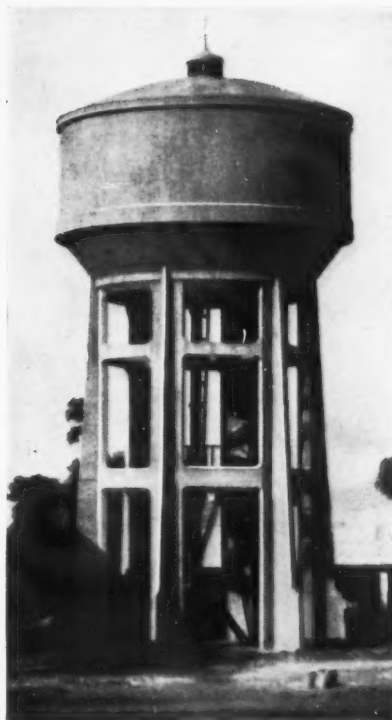
CENTRE: BHAGALPUR, 50,000 gallons.

BOTTOM RIGHT: MONGHYR, 120,000 gallons.



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THE great earthquake of 1935, in Behar, seriously damaged the towns of Ranchi, Bhagalpur and Monghyr — the latter being almost wiped out—and these three water towers form part of the new water supply services. They are built of reinforced concrete, not of itself waterproof, but the tanks are rendered internally to a thickness of  $\frac{3}{4}$ -inch with  $2\frac{1}{2}$  parts of sand to one part of Portland cement made impervious by the addition of 3 lb. of 'PUDLO' Brand waterproofing powder per 100 lb. of the cement. The contractors, Messrs. Jardine Menzies & Co., of Calcutta, wrote:—"We are glad to inform you that these towers are absolutely watertight, and that at no time have we experienced the slightest trouble through leakage." Their experience confirms that of many engineers in India where the conservation of purified water is a problem of the greatest importance.

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that is simple to fix, durable, washable and hygienic; the cost, fixed, compares with that of good quality tiling. The sheets can be manufactured in any size, though the present method of fixing in a light framework of metal trim would seem to suggest that the sheets should not be too large in size. When the world gets back to sanity, and progress in the building industry is allowed to take its normal course, it is clear that many new and improved applications of cast iron will speedily be evolved. The directors of Federated Sales, Ltd., are, however, to be congratulated on their decision to go straight ahead with production, research and investigation, for though present circumstances make it exceeding unlikely that good business will at once reward their enterprise, the present time does seem to be the right time to organize one's business so that it shall be ready for immediate adaptation to post-war conditions.

(Federated Sales, Ltd., 80, Grosvenor Street, London, W.1.)



General view of the "AB" Cooker demonstration kitchen, where the applications of cast iron include glazed wall panelling, clock face, table and cupboard tops, double sink and draining board and all the kitchen utensils.

## The Buildings Illustrated

### The Dental Hospital of Manchester and Turner Dental School.

**Architects:** Thomas Worthington and Sons.

The general contractors were Bovis Ltd., C. S. Allott and Son (Consultant structural engineers), Cramp and Frith (Consultant electrical engineers). Among the sub-contractors were the following: Caxton Floors Ltd. (reinforced concrete retaining walls, floors), Sika-Francois Ltd. (waterproofing processes), Edward Wood & Co. Ltd. (structural steelwork), Trussed Concrete Steel Co. Ltd. (suspended ceilings), Buckley Junction Metallic Brick Co. Ltd. (facing bricks), Limmer and Trinidad Lake Asphalt Co. Ltd. (damp-proofing, roofing), F. M. and H. Nuttall Ltd. (stone), J. Whitehead and Sons Ltd. (marble), Conways (Tiles & Terrazzo) Ltd. (terrazzo), Scott Morton & Co. Ltd. (decorative woodwork), Heal and Son Ltd. (furniture), Laidlaw and Thompson (ironmongery and window and door furniture), Shanks & Co. Ltd. (fittings—baths, basins, w.c. taps, anti-siphonage traps), Birmingham Guild Ltd. (bronze staircase, balustrades, etc.), E. M. Evans and Son Ltd. (lighting, electrical installation), Etchells Congdon and Muir Ltd. (lifts), Saunders & Taylor Ltd. (heating and ventilating), Ideal Boilers and Radiators Ltd. (radiators), James Clark and Eaton Ltd. (glazing), Henry Hope and Sons Ltd. (metal windows), J. B. Johnson and Sons (plaster), Walpamur Ltd. (paint and distemper), Newalls Insulation Co. Ltd. (acoustic and insulating materials), Irving & Co. (light-tight blinds), Roneo Ltd. (steel equipment), A. M. MacDougall & Co. Ltd. (floor finishings: wood block), Cork Insulation Co. Ltd. (floor finishings: cork), Leyland and

Birmingham Rubber Co. Ltd. (floor finishings: rubber), Thos. Bradford Ltd. (laundry machinery), Granitese (Gt. Britain) Ltd. (wall finishes), Turners Asbestos Cement Co. Ltd. (bench top and vulcanizing benches), J. P. White and Sons Ltd. (flush doors), Empire Stone Co. Ltd. (precast stairs).

### Kingston High School, Hull.

**Architect:** Andrew Rankie.

The general contractors were Tarran Industries Ltd. Among the sub-contractors were the following: Northern Asphalt Co. Ltd. (asphalt), Richard Thomas & Co. Ltd. (bricks), Kingston Cast Stone Co. Ltd. (artificial stone), King & Co. Ltd. (structural steel), Rapid Precast Floors Ltd. (fireproof construction), "Foamag" Partitions (partitions), Furniss & Co. (patent glazing), Humber Heating Co. Ltd. (central heating), Hollis Bros. & Co. Ltd. (woodblock flooring), Granwood Flooring Co. Ltd. (patent flooring), Ideal Boilers and Radiators Ltd. (boilers), General Electric Co. Ltd., Troughton and Young Ltd., Falk Stadelmann & Co. Ltd. (electric light fixtures), J. R. Howie Ltd., Adamsez Ltd., J. Duckett and Son Ltd. (sanitary fittings), Helliwell and Co. Ltd. (casements), W. and R. Leggott Ltd. (window furniture), W. J. Wilson and Son (fibrous plaster), Dixon Pownier and Sons Ltd. (handrails, etc.), T. W. Palmer & Co. (entrance gates), O. Toffolo and Sons (terrazzo), Niels Larsen and Son Ltd. (gymnasium furnishing), A. Bentley Ltd., North of England School Furnishing Co. (school fittings), Isaac Robson & Co. Ltd. (cloakroom fittings), Thornborough and Sons (lifts), Gent & Co. Ltd. (electric clocks).

### Extensions to the James Allen's Girls' School, Dulwich.

**Architect:** J. E. K. Harrison.

The general contractors were L. and W. Whitehead Ltd. Among the sub-contractors were the following: British Reinforced Concrete Co. Ltd. (B.R.C. reinforcement for foundations, concrete floors and roofs), Henry C. Parker & Co. (bricks), Stuart's Granolithic Co. (artificial stone), Redpath, Brown & Co. Ltd. (structural steel), Carter & Co. Ltd. (swimming bath tiling and tiled dados), Camden Tile and Mosaic Co. (other tiling), F. McNeill & Co. Ltd. (flat roofs—Combinite-Bitumen on insulation board and Solartile roofing), G. R. Speaker & Co. Ltd. (Eonit blocks), James Clark and Eaton Ltd. (glass), Hollis Bros. & Co. Ltd. (floor over swimming bath), Cement Marketing Co. (waterproofing materials), J. Jeffreys & Co. Ltd. (central heating, ventilation), Ideal Boilers and Radiators Ltd. (boilers), Hume, Atkins & Co. Ltd. (electric light fittings), John Bolding and Sons Ltd. (sanitary fittings), Adrian Stokes & Co. Ltd. (door furniture, folding gates and metalwork), Hills Patent Glazing Co. Ltd. (casements), H. J. Cash & Co. Ltd. (electric wiring and bells), Fire Doors Ltd. (rolling shutters), R. Cattle Ltd. (flush doors and folding screen), Potter Rax Gate Co. Ltd. (cloakroom fittings), Andrew Bentley, Ltd. (laboratory fittings), Aldous and Campbell Ltd. (lifts), Smith's English Clocks Ltd. (clocks), Lenscrete Ltd. (concrete roof lights), Haywards Ltd. (diving stage), Francis Morton, Junr., & Co. (bath floor structure), Catesbys Ltd. (linoleum dados), May Acoustics Ltd. (acoustic tiles in hall), Semtex Ltd. (flooring to bath surround).



*Progress photograph of the  
New Technical School, Norwich*

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(Illustration on right)

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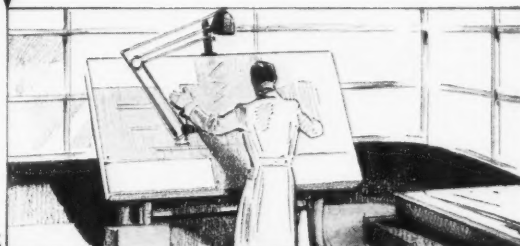
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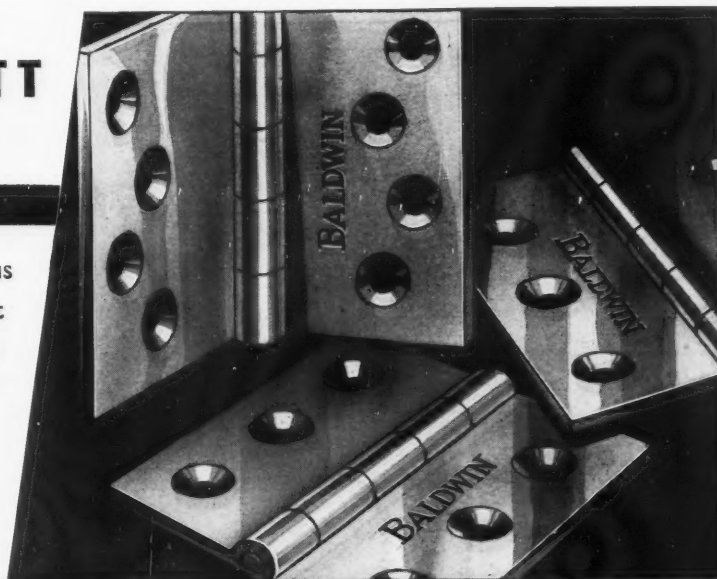


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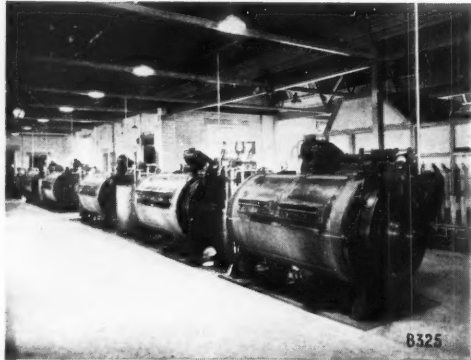


Fig. 8325—Installation of six "Multi-Jet" Washers each with "Lightburn" reversing Clutch and one-way motor.

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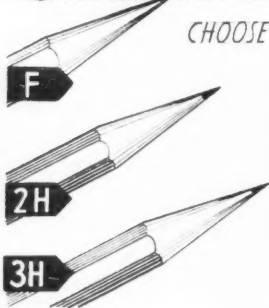
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